358
183

USDA United States Department of Agriculture

Forest Service

North Central Forest Experiment Station

Resource Bulletin
NC - 183

Wisconsin Forest Statistics, 1996

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1992 Folwell Avenue
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Manuscript approved for publication September 11, 1997

This report includes the most commonly used U.S. Department of Agriculture, Forest Service, Forest Inventory and Analysis (FIA) statistics. Additional forest resource data can be obtained through FIA staff, through the use of an FIA CD-ROM, or through a table generator on the North Central Forest Experiment Station's Internet page. Persons requesting additional information from FIA staff are expected to pay the retrieval costs.

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FOREWORD

FIA is a continuing endeavor as mandated by the Renewable Resources Research Act of 1978. The objective of FIA is to periodically inventory the Nation's forest land. Up-to-date resource information is essential to frame forest policies and programs. USDA Forest Service regional experiment stations are responsible for conducting these inventories.

Fieldwork for the fifth forest inventory of Wisconsin was begun in August of 1993 and completed in August of 1996. More accurate survey information was obtained during this survey than otherwise would have been feasible because sampling intensity was increased to a double intensity level statewide. Such sampling was made possible through the cooperation, assistance, and additional funding provided by the State of Wisconsin.

The State of Wisconsin funding enabled FIA to measure twice as many field plots as would have been possible solely with Federal funds. As a result, the accuracy of the resulting FIA data was greatly improved.

Notice to users of the 1996 inventory of Wisconsin's forest resources results:

Data from new inventories are often compared with data from earlier inventories to determine trends in forest resources. However, for the comparisons to be valid, the procedures used in the two inventories must be similar. As a result of our ongoing efforts to improve the efficiency and reliability of the inventory, several changes in procedures and definitions have occurred since the last Wisconsin inventory in 1983. Because some of these changes will make it inappropriate to directly compare the 1996 data with those published for 1983, data from the 1983 inventory have been reprocessed using the 1996 procedures. Please refer to the section labeled "Comparing Wisconsin's fifth inventory with the fourth inventory" in the appendix for more details.

Perhaps the most significant change between inventories was the development of new volume tables between the 1983 and 1996 inventories of Wisconsin's forest resources. The new volume tables, developed by USDA Forest Service research scientists and other cooperating researchers, more accurately estimate the true growing-stock and sawtimber volume. In general, the old volume tables used in the previous inventories underestimated the true volume. As a part of the current inventory, we updated the 1983 inventory using the new volume tables. As a result, the volumes that were recalculated for the 1983 inventory show an increase from the previously published volumes (Resource Bulletins NC-94 - Wisconsin Forest Statistics and NC-107 - Wisconsin's Fourth Forest Inventory, 1983). All tables with 1983 data, and comparisons to the 1983 inventory results, in this publication reflect the recalculated volumes.

FIA staff located in St. Paul, Minnesota, involved in the fifth inventory of Wisconsin included Beth Collins, Sheri De Cora, Barb Freund, Tom Gearhart, Dan Goodman, Dale Gormanson, Dan Groen, Ron Hackett, Mark Hansen, David Haugen, Doug Hecker, Jennifer Iole, Mike Johnson, Neal Kingsley, Barb Knight, Earl Leatherberry, Troy Lindgren, Joel Lemberg, Dennis May, Doug Magee, Pat Miles, Jerry Ostrom, Ron Piva, Gerhard Raile, Mary Jo Resendez, Jay Solomakos, Dan Wendt, and Suzanne Willhite.

FIA field staff involved in this inventory were Todd Anderson, John Benaszeski, Avery Beyer, Elaine Boanshick, Dan Brooks, Kurt Buckler, Jody Buffman, Michael Burns, Paul Castillo, John Crittenden, Brian De Byl, Graig Farrer, Jay Flynn, Duane Fogard, Rodney Fouks, Kristen Goodrich (Weber), Nathan Goodrich, Mark Gossman, William Groth, Dean Halvorson, Cheri Hartless, Patrick Hartless, Doug Hecker, Glenda Hefty, Gary Inhelder, Nicholas Kestle, Marsha Klein, Daniel Klocek, Peter Koehler, Scott Lancaster, Keith Magunsson, Mark Majewsky, Lisa McDonald, Tim Miller, Jeffery Morse, Daniel Nelson, Eric Oliphant, Wilfred Ortiz, Paul Perdew, Lawrence Plucinski, Edward Reiss, Kevin Sheppard, Daniel Sherrill, Trevor Sommers, Gary Stachowicz, Eric Stanton, Richard Steensma, James Stelick, Heidi Troyer (Waymann), Andrew Tuttle, Jerry Van Cleve, James Veiman, Brad Witkin, Erin Witkin, and Christopher Yonkers.

CONTENTS

Highlights 2
Extent of Wisconsin's Forests 2
Composition of Wisconsin's Forests 3
Causes of Change in Wisconsin's Forests 6
Forest Habitat Types of Wisconsin 7
Appendix 7
Accuracy of the Survey 7
County Data 8
Comparing Wisconsin's Fifth Inventory with the Fourth Inventory 9
Survey Procedures 9
Major Steps in the New Survey Design 10
Habitat Type Classification of Wisconsin 13
Habitat Type Groups - North 13
Habitat Type Groups - South 13
Index of Habitat Type Names 14
Tree and Log Grades 17
Metric Equivalents 22
Tree Species Groups in Wisconsin 22
Definition of Terms 23
Literature Cited 30
Tabl Titles 31
Tables 35

Wisconsin Forest Statistics, 1996

Thomas L. Schmidt

Wisconsin, well known for its water quality, outdoor recreation, and dairy products, is also recognized for its forests and the goods and services they provide. For example, Wisconsin is the Nation's leading paper-producing State. The State's forests play an important role in the lives of Wisconsin citizens, ranging from providing employment and other economic contributions to improving and protecting the State's soil and water resources. Wisconsin is divided into five sampling units (fig. 1).

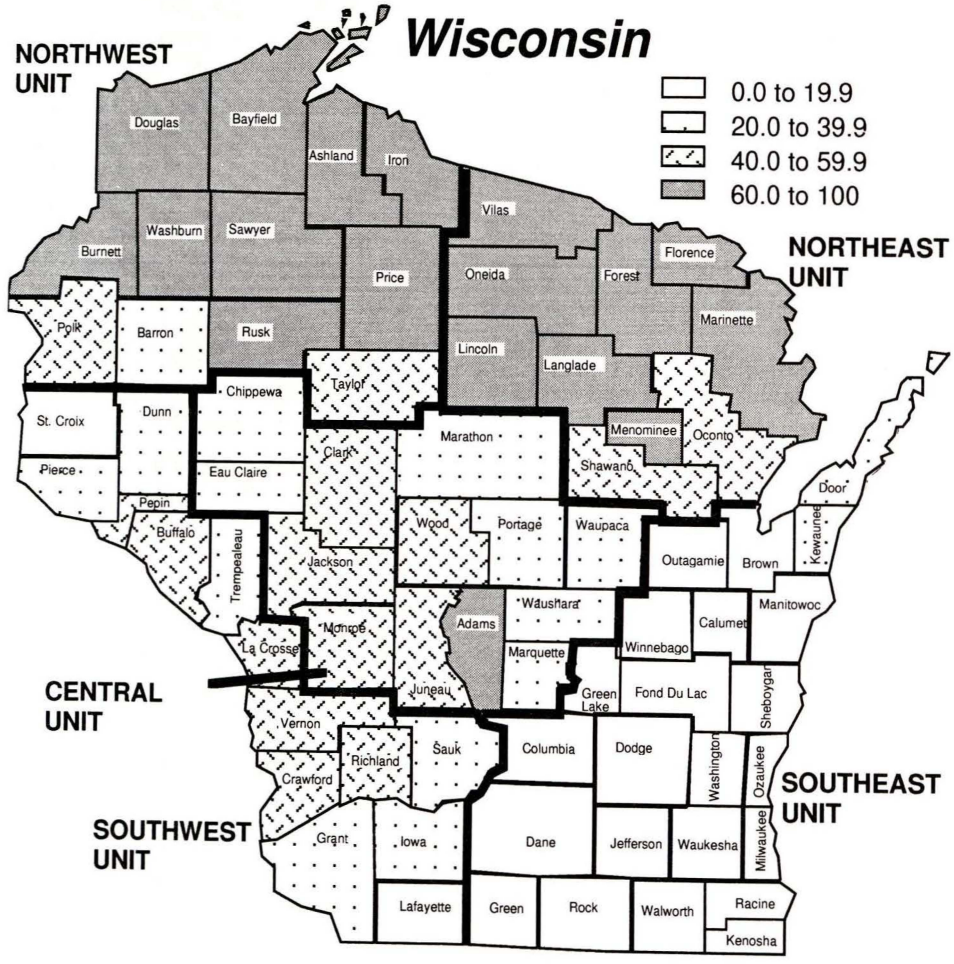

Figure 1.—*Forest land as a percent of land area by county, and Forest Survey Units, Wisconsin, 1996.*

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HIGHLIGHTS

- The area of Wisconsin's forests continued to increase between inventories, continuing a trend that began in the 1970's. The primary cause of this increase is the reversion of marginal agricultural land back to forest land.

- Net growth exceeds harvest in Wisconsin. Sawtimber average annual net growth exceeded harvest by more than 40 percent between 1983 and 1996.

- As a result of the expanding resource and tree growth greater than trees harvested, the volume of trees growing in Wisconsin continued to increase in the 1996 inventory.

- The majority of the increase in area of forest land between inventories, occurred in young forests. Since young trees tend to grow faster than older trees (average growth rates tend to slow down as trees age), future growth in Wisconsin's forests is expected to continue to increase.

- Between inventories, an average of 100 million new growing-stock trees became established each year in Wisconsin. As a result, there were almost 1.4 billion more growing-stock trees in 1996 than in 1983.

- The future of the forest lies in the hands of individual private landowners, who own almost 60 percent of the total area of timberland in Wisconsin.

- The extensive State and county ownership of forest land is a distinctive feature of the Lake States region compared to other regions in the Eastern U.S. State and county ownership represents 26 percent of the total area of forest land in the Lake States compared to an average of 6 percent for the Nation (Webster, pers. comm.).

Extent of Wisconsin's Forests

- The area of forest land in Wisconsin has been steadily increasing in recent decades. Forest land increased from 14.9 million acres in 1968 to 15.3 million acres in 1983 to 16.0 million acres in 1996. Currently, the area of forest land in Wisconsin represents 46 percent of the total land area.

- All five Survey Units increased in area of timberland between inventories. The greatest increase in area of timberland occurred in the Northeast Unit, which rose from 3.8 to 4.2 million acres between 1983 and 1996.

- Currently, the Northeast Unit is the most heavily forested unit with 7 out of every 10 acres classified as timberland. Conversely, in the Southeast Unit, only slightly more than 1 out of every 10 acres are classified as timberland. The Southeast Unit is the most urbanized and agricultural part of the State. The percent of the total area of land classified as timberland for the five units is: Northeast, 73 percent; Northwest, 68 percent; Central, 43 percent; Southwest, 33 percent; and Southeast, 13 percent.

- Individual private landowners are the largest group of timberland owners in Wisconsin, owning more than 57 percent of all timberland in 1996. Counties and municipalities are the largest group of public owners, holding 15 percent of the total area of timberland in Wisconsin (fig. 2).

- Bayfield County continued to be the lead county in terms of total area of timberland (740,000 acres in 1983 and 772,000 acres in 1996).

- Currently, Bayfield, Marinette, Sawyer, Douglas, Price, Oneida, Forest, and Ashland Counties all have more than a half million acres of timberland.

- Despite the overall increase in area of timberland, some counties decreased in area of timberland between inventories. The majority of these counties are located in the southern portions of Wisconsin. The primary reason for a decrease in area of timberland was urban and suburban development.

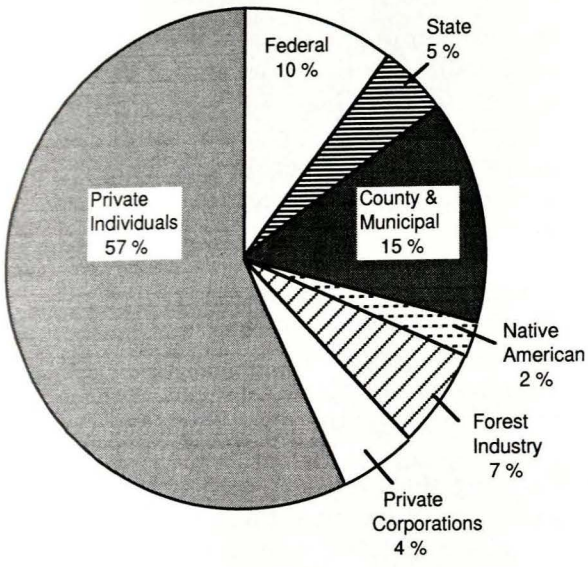

Figure 2.—*Distribution of timberland, by owner, Wisconsin, 1996.*

Composition of Wisconsin's Forests

- Wisconsin's forests are predominately hardwoods with 84 percent of the total area of timberland classified as hardwood forest types. Currently, the primary hardwood forest type in Wisconsin is maple-beech-birch with 5.3 million acres (fig. 3).

- Currently, conifer forest types represent 16 percent of the total area of timberland in Wisconsin. Pine forest types account for 8 percent, swamp conifers 6 percent, and spruce-fir 2 percent of the total area of timberland.

- Between 1983 and 1996, the area of jack pine, white pine, balsam fir, northern white-cedar, aspen, and paper birch declined. The decline in area of jack pine, aspen, and paper birch was primarily due to natural succession as these shade-intolerant species aged and were replaced by more shade-tolerant species.

- Mid- to late-successional forest types increased in area between 1983 and 1996. For example, the area of maple-beech-birch increased from 4.1 million acres to 5.3 million acres.

- Between inventories, the area of sawtimber- and poletimber-size stands decreased, by 6 percent and 1 percent, respectively, while sapling-seedling-size stands increased by 37 percent. In 1996, poletimber-size stands accounted for 41 percent, sapling-seedling-size stands 31 percent, and sawtimber-size stands 28 percent of the total area of timberland in Wisconsin (fig. 4).

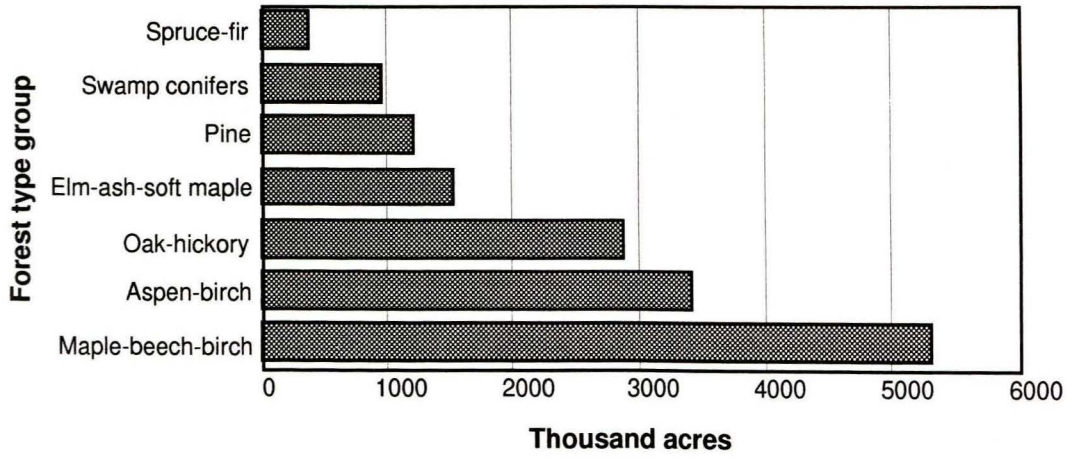

Figure 3.—*Area of timberland by forest type group, Wisconsin, 1996.*

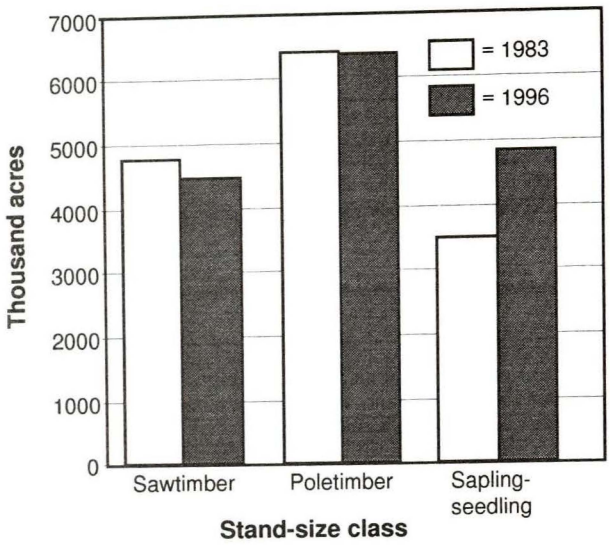

Figure 4.—*Area of timberland, by stand-size class, Wisconsin, 1983 and 1996.*

- Stocking, a measure of how occupied the land is by trees, improved between 1983 and 1996 in Wisconsin. For example, the percentage of poorly stocked timberland decreased from 24 percent of the total area of timberland in 1983 to only 14 percent in 1996. By 1996, more than 50 percent of the total area of timberland in Wisconsin was fully stocked, compared to 42 percent in 1983.

- The number of growing-stock trees in Wisconsin increased from about 7.3 billion in 1983 to 8.7 billion in 1996. With a statewide population of about 5.1 million people in 1996, Wisconsin had more than 1,700 growing-stock trees for each citizen in 1996.

- Quaking aspen, with almost 1.5 billion growing-stock trees, is currently the most abundant species in Wisconsin. Balsam fir, with more than 750 million growing-stock trees in 1996, is the most abundant conifer.

- Growing-stock volume increased from 16.5 billion cubic feet in 1983 to 18.5 billion cubic feet in 1996, reflecting the increase in both area and stocking during the 13 years between inventories.

- In both 1983 and 1996, hardwoods accounted for three-fourths of all growing-stock volume. The species groups with the most growing-stock volume in 1996 were aspen (quaking aspen and bigtooth aspen), 2.5 billion ft^3; red oak (select red oak and other red oak), 2.4 billion ft^3; hard maple, 2.2 billion ft^3; and soft maple, 1.9 billion ft^3 (fig. 5).

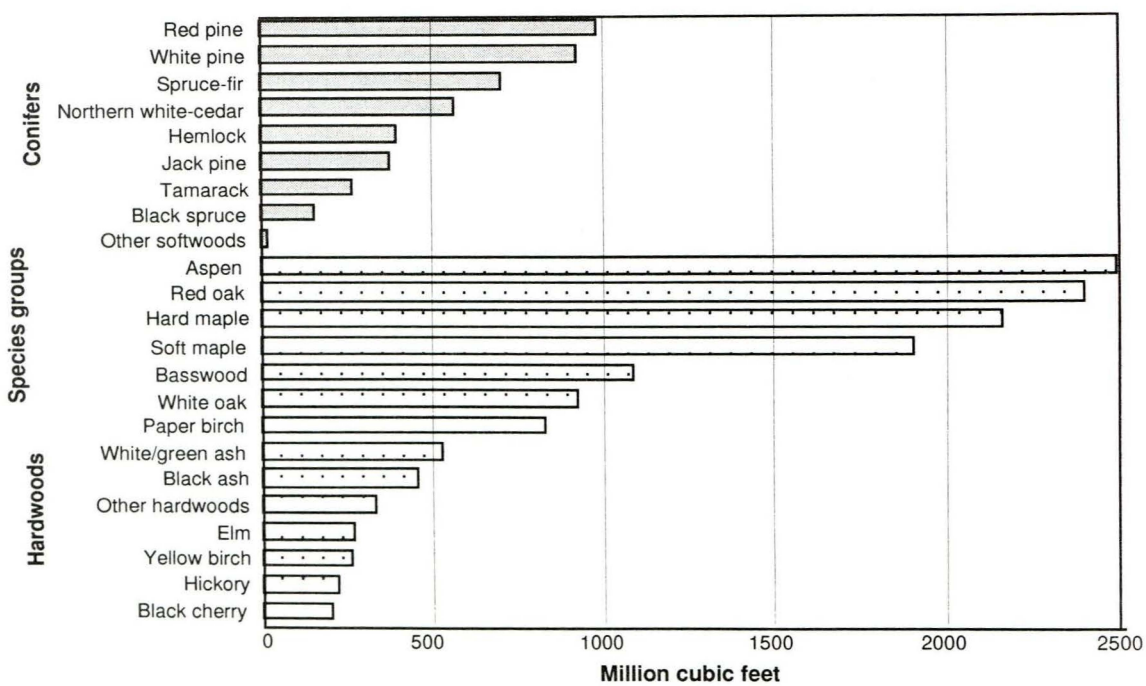

Figure 5.—*Growing-stock volume, by species group, Wisconsin, 1996.*

- While the total area of timberland typed as oak-hickory remained constant between inventories at about 2.9 million acres, growing-stock volumes for the oak and hickory species groups generally increased. For example, select white oak increased from 759 million ft^3 to 927 million ft^3 between 1983 and 1996, an increase of 22 percent.

- One of the more interesting changes in Wisconsin's forests between 1983 and 1996 is in the distribution of aspen growing stock. In 1983, 67 percent of the aspen growing-stock volume was in the aspen-birch forest type. By 1996, only 57 percent of the aspen growing-stock volume was in the aspen-birch forest type. Aspen is a pioneer species that generally does not reproduce itself in an established stand. Instead, aspen relies on disturbances to create an environment that is suitable for regeneration. Currently almost half of all aspen growing-stock volume is in other forest types, indicating that many of the aspen-birch forest types are in the process of converting to other forest types. As the established aspen matures and begins to die out, more shade-tolerant species become established, resulting in the stands being reclassified from aspen-birch to other forest types.

- While the area of timberland typed as white pine decreased from 224 thousand acres to 192 thousand acres, white pine growing-stock volume increased by almost 50 percent from 1983 (625 million ft^3) to 1996 (929 million ft^3). There is a considerable amount of white pine growing-stock volume in forest types other than white pine. More than 20 million ft^3 of white pine growing-stock volume are in the red pine, oak-hickory, elm-ash-soft maple, maple-beech-birch, aspen, and paper birch forest types.

- From 1983 to 1996, total sawtimber volume in Wisconsin increased by 31 percent, rising from 37 billion board feet to 48 billion board feet. In both 1983 and 1996, red oak was the most prevalent hardwood sawtimber species and white pine was the most prevalent conifer sawtimber species.

- The quality of the sawtimber in Wisconsin has improved over recent inventories. As an example, the percentage of sawtimber in the highest quality classifications (grades 1 and 2) increased from 28 percent in 1983 to 41 percent in 1996 (fig. 6). The predominant reason for this improvement in quality is the increase in the overall size (diameters and lengths) of the sawtimber resource.

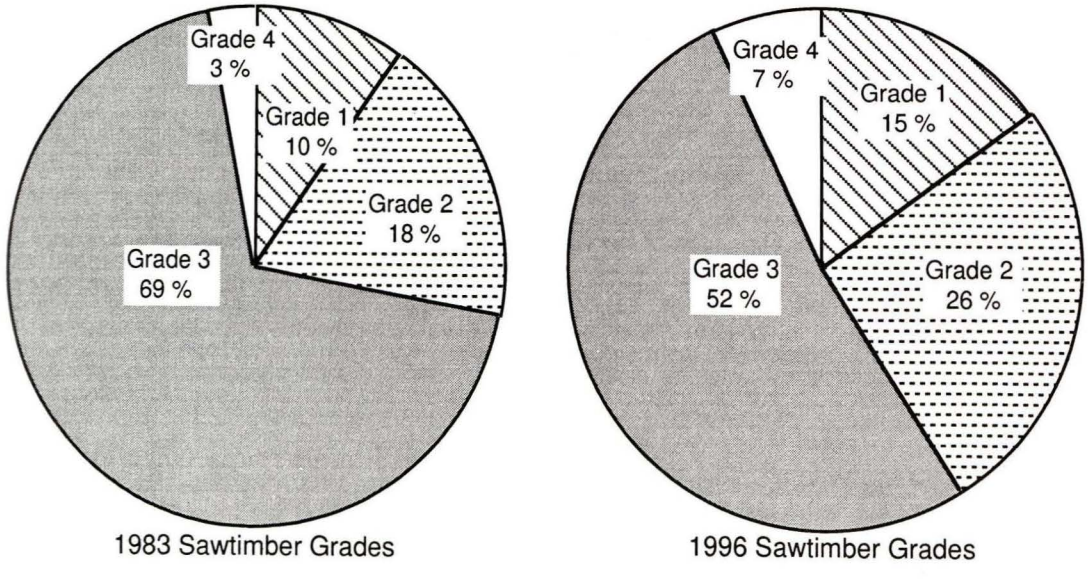

Figure 6.—*Percent of sawtimber by grade, Wisconsin, 1983 and 1996.*

- In 1996, 87 percent of the total volume on timberland in Wisconsin qualified as growing stock. Other sources of wood fiber volume in Wisconsin include short-log, rough, rotten, and salvable dead trees. Although the vast majority of wood harvested is from growing stock, these other sources of volume also contribute to the overall harvest and availability of wood fiber in Wisconsin.

Causes of Change in Wisconsin's Forests

- The primary causes of change in Wisconsin's forests are natural successional processes, growth, mortality, and other natural disturbances, as well as human-induced changes such as harvesting, other forest management activities, and land-use changes. These change factors often result in reclassifications from one forest type to another. For example, many timberland sites were classified as aspen forest type in 1983. However, when our field crews revisited these same sites in 1996, succession had progressed to where the aspen trees were replaced by more shade-tolerant hardwood species. As a result of these changes, the stand was reclassified as maple-beech-birch.

- Between 1983 and 1996, Wisconsin's average annual net growth of growing stock was 490 million ft^3. This equates to an average annual net growth rate of 31 ft^3 of growing stock per acre for each of the 15,702,500 acres of timberland in Wisconsin in 1996.

- Conifer species groups with the largest average annual net growth of growing stock between inventories were red and white pine. These two species groups alone accounted for 58 percent of the total average annual net growth of growing stock for all conifers in Wisconsin.

- Hardwood species groups with the largest average annual net growth of growing stock between inventories were aspen (bigtooth and quaking aspen), soft maple (red and silver maple), hard maple (black and sugar maple), and red oak (select and other red oak). All four of these species groups averaged more than 50 million ft^3 of annual net growth of growing stock between 1983 and 1996.

- Wisconsin's average annual mortality of growing stock was 190 million ft^3 between 1983 and 1996. This equates to an average annual mortality rate of 12 ft^3 of growing stock per acre for each of the 15,702,500 acres of timberland in Wisconsin.

- Of the known causes of growing-stock mortality, stem decay, foliage diseases, and bole borers are the primary causes of mortality in Wisconsin. Other causes of growing-stock mortality include hypoxylon canker, oak wilt, Dutch elm disease, and flooding.

- Aspen mortality accounted for more than one-fourth of the total average annual mortality of growing stock in Wisconsin between 1983 and 1996. In addition, paper birch, red oak, balsam fir, and elm all had average annual mortality of growing stock rates of more than 10 million ft^3 during this time period.

- Between 1983 and 1996, Wisconsin's average annual removals of growing stock were 332 million ft^3. This equates to an average annual removal rate of 21 ft^3 of growing stock per acre for each of the 15,702,500 acres of timberland in Wisconsin. This removal rate represents 1.8 percent of the total growing-stock volume in Wisconsin.

- The average annual removal rate for hardwood growing stock (280 million ft^3) was 2.0 percent of the total hardwood growing-stock volume. Average annual removals of softwood growing stock were 53 million ft^3, 1.2 percent of the total softwood growing-stock volume.

- Between 1983 and 1996, the primary softwood species groups (growing-stock removals) harvested in Wisconsin were jack pine, white pine, red pine, and balsam fir.

- Between 1983 and 1996, the primary hardwood species groups harvested (growing-stock removals) in Wisconsin were aspen (quaking and bigtooth aspen), red oak (select red oak and other red oak), hard maple (black and sugar maple), soft maple (red and silver maple), and paper birch.

Forest Habitat Types of Wisconsin

- The 1996 inventory of Wisconsin's forest resources included the use of the Wisconsin Forest Habitat Type Classification System (Kotar *et al.* 1988, Kotar and Burger 1996). The habitat type system is a method of site classification that uses floristic composition, particularly understory species, as an indicator of biological site capability. Knowledge of the biological potential of forest sites can lead to improved management. For convenience, the 95 habitat types recognized in Wisconsin were grouped into 15 habitat type groups: 7 northern and 8 southern. The groups represent steps of the moisture-nutrient gradient for each of the two regions.

- In this inventory, the greatest acreages of forest land were classified as the North Mesic (2.3 million acres), North Wet-Mesic (2.2 million acres), and North Wet (2 million acres) habitat type group.

- Of the 95 habitat types identified, the greatest acreages of forest land are classified in the Lowland North, Hydromesic North, Lowland South, ArCi-Ph (*Acer/Circaea-Phryma*), ATM (*Acer-Tsuga/Maianthemum*), AViO (*Acer/Viola-Osmorhiza*), and TMC (*Tsuga/Maianthemum-Coptis*) habitat types. More than 400 thousand acres of forest land are found in each of these habitat types.

- Regarding the major species groups, pine is primarily represented by dry site habitat groups, other softwoods by mesic to wet site habitat groups, soft hardwoods by mesic to wet-mesic site habitat groups, and hard hardwoods by dry-mesic to mesic site habitat groups.

APPENDIX

ACCURACY OF THE SURVEY

Forest Inventory and Analysis information is based on a sampling procedure designed to provide reliable statistics at the State and Survey Unit levels. Consequently, the reported figures are estimates only. A measure of reliability of these figures is given by sampling errors. These sampling errors mean that the chances are two out of three that if a 100-percent inventory had been made, using the same methods, the results would have been within the limits indicated.

For example, the estimated growing-stock volume in the State in 1996, 18,473.2 million cubic feet, has a sampling error of ± 0.78 percent (± 144.1 million cubic feet). The growing-stock volume from a 100-percent inventory would be expected to fall between 18,329.1 million cubic feet and 18,617.3 million cubic feet (18,473.2 ± 144.1), there being a one in three chance that this is not the case.

Item	State totals	Sampling error
Growing stock	(Million cubic feet)	(Percent)
Volume (1996)	18,473.2	0.78
Average annual growth (1983-1995)	490.1	1.42
Average annual removals (1983-1995)	332.2	6.35
Sawtimber	(Million board feet)	
Volume (1996)	48,020.4	1.09
Average annual growth (1983-1995)	1,680.6	1.67
Average annual removals (1983-1995)	986.2	6.85
	(Thousand acres)	
Timberland area (1996)	15,702.5	0.28

As survey data are broken down into sections smaller than State totals, the sampling error increases. For example, the sampling error for timberland area in a particular county is higher than that for total timberland area in the State. To estimate sampling error for data smaller than State totals, use the following formula:

$$E = \frac{(SE)\sqrt{(\text{State total volume or area})}}{\sqrt{(\text{Volume or area smaller than State total})}}$$

Where :

E = Sampling error in percent.

SE = State total error for volume or area.

For example, to compute the error on the area of timberland in the maple-beech-birch type for the State, proceed as follows:

1) Total statewide area of maple-beech-birch type = 5,299.7 thousand acres.

2) Total statewide area of all timberland = 15,702.5 thousand acres.

3) The State total error for timberland area = 0.28 percent.

4) Using the above formula:

$$E = \frac{0.0028\sqrt{15{,}702.5}}{\sqrt{5{,}299.7}}$$

E= 0.0048 or 0.48 percent sampling error for the maple-beech-birch forest type in Wisconsin.

County Data

A standard FIA inventory is designed to provide sampling errors of no more than 3 percent per million acres of timberland or an overall error on Wisconsin's nearly 15.7 million acres of about 0.7 percent. More accurate survey information was obtained during this survey than otherwise would have been feasible because sampling intensity was increased from a single intensity level to a double intensity level. The goal was to provide a sampling error of less than 10 percent for total timberland area by county from the increased sampling intensity. Such sampling was made possible through the cooperation, assistance, and additional funding provided by the State of Wisconsin. In addition, to aid in determining current timber removals, the Wisconsin Department of Natural Resources (WDNR) also surveyed primary wood-using plants in the

State. Sampling errors for area, volume, growth, and removals, for both growing stock and sawtimber, for each county in Wisconsin are shown in Appendix table 56.

The sampling error within a county depends on county size and total area of timberland. Many large, heavily forested counties in the State have sampling errors below 5 percent. However, in counties where timberland area is less than 35,000 acres, the sampling error for the total area in timberland will generally exceed 10 percent. The sampling error for total timber volume in a reporting area containing 35,000 acres of timberland will be about 20 percent.

COMPARING WISCONSIN'S FIFTH INVENTORY WITH THE FOURTH INVENTORY

A new volume estimation procedure developed for the Lake States was used to compute the 1996 volumes and to recompute the 1983 volume. Although the adjustment will differ by Survey Unit and species, the recomputed 1983 growing-stock and sawtimber volumes will generally be greater than those shown in the 1983 report.

Past surveys used only growing-stock trees to determine stand-size class. Current survey procedures require that stand-size class be determined on the basis of all live trees. Therefore, direct comparisons of current inventory data to old inventory data by stand-size class may be misleading.

The basic building block for estimating forest area and timber volume has been changed from the Survey Unit to the county. In the past, the statistics were developed at the Unit level and prorated back to the county on the basis of photo-interpretation points. Direct development of county-level data helps users interested in more precise local data, but can make the data comparisons with past estimates misleading.

SURVEY PROCEDURES

The 1996 Wisconsin survey used a growth model-enhanced, two-phase sample design. Using this sampling scheme and associated estimators is similar to sampling with partial replacement, in that a set of randomly located plots is available for remeasurement and a random set of new plots is established and measured. A feature of the new Wisconsin design is stratification for disturbance on the old sample and use of a growth model to improve regression estimates made on old undisturbed forest plots (fig. 7). Detailed descriptions of the sampling and estimation procedures are presented by Hansen (1990). The growth model used in the Wisconsin survey design was the Lake States Stand and Tree Evaluation and Modeling System (STEMS) (Belcher *et al.* 1982).

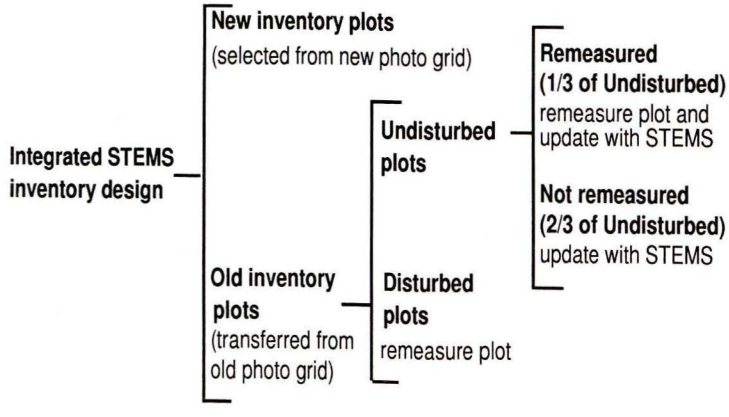

Figure 7.—*Overview of the Wisconsin sample design.*

Major Steps in the New Survey Design

1. Aerial photography (Phase 1)

In this phase, two sets of random points were located on current aerial photography. The first is a set of new photo plots and the second is a set of relocated old ground plot locations from the 1983 inventory. Aerial photographs, taken from 1991 through 1993, that were used for Phase 1 of the inventory were black and white, infra-red at a scale of 1:15,840 for the Northeast, Northwest, and Central Units and at a scale of 1:24,000 for the Southeast and Southwest Units. The WDNR contracted this photography and loaned the photos to the Forest Service. The locations of plots used in the 1983 inventory were transferred to these new photographs. The photographs were then assembled into township mosaics, and a systematic grid of 121 one-acre photo plots (each plot representing approximately 190.4 acres) was overlaid on each township mosaic. Each of these photo plots was examined by aerial photo interpretation specialists and classified stereoscopically based on land use. If trees were present, forest type and stand-size/density class were recorded. After this examination, all the old "disturbed" sample locations and one-third of the old "undisturbed" forested plots were sent to the field for survey crews to verify the photo classification and to take further measurements. All photo plot locations for the 1996 inventory were examined and were classified as shown in the tabulation below.

A systematic sample of the aerial photo plots were selected to become ground plots in phase 2 of the procedure. Ground plots that definitely were not forest land were given a nonforest ground land use classification and not sent to the field for measurement.

Photo land class	Photo plots
Forest land	90,242
Reserved forest land	1,392
Questionable	1,230
Nonforest with trees	9,826
Nonforest reserved	337
Nonforest without trees	95,712
Water	4,587
All classes	203,326

2. Plot measurements (Phase 2)—
Overview of 1983 Plot Design

On plots classified as timberland, wooded pasture, or windbreak (at least 120 feet wide), a ground plot was established, remeasured, or modeled. Old plots sent to the field for remeasurement that could not be relocated were replaced with a new plot at the approximate location of the old one. Each ground plot consisted of a cluster of 10 subplots covering approximately 1 acre. At each subplot, trees 5.0 inches or more in d.b.h. were sampled on a 37.5 Basal Area Factor (BAF) variable-radius plot, and trees less than 5.0 inches d.b.h. were sampled on a 1/300-acre fixed-radius plot only at subplots 1, 2, and 3. The arrangement of the 10 subplots within the plot was adjusted if they were located in a land use that was different from subplot 1. Under the estimation procedures used in this inventory, the entire plot measurement represented a single land classification. Thus, if a subplot was located outside of the land classification for the plot, it was rotated into the land classification. For example, if subplots 1 through 9 were located in a forest land classification and subplot 10 fell in a pasture, subplot 10 was rotated back into the forest land classification.

Plot measurements (Phase 2)—
Overview of 1996 Plot Design

On plots classified as forest land (including reserved forest land, unproductive forest land, and timberland), wooded pasture, or windbreaks (at least 120 feet wide), a ground plot was established, remeasured, or modeled. Locating ground plots on all forest lands represented a major change between the 1983 and 1996 inventories.

In 1996, the overall plot layout consisted of 10 subplots arranged in a cluster with 70 feet between clusters. The basic location of plots and subplots was the same as the 1983 plot layout. All trees less than 5 inches in d.b.h. were measured on a 6.8-foot radius (1/300th acre) circular microplot located at the center of each subplot. (In 1983, this microplot was measured only on subplots 1, 2, and 3). This radius was the maximum distance at which a 5-inch tree would be selected using a basal area factor (BAF) of 37.5 prism. Trees with diameters between 5 and 17 inches were

selected at each of the 10 subplots with a BAF of 37.5. Trees greater than 17 inches d.b.h. were selected from a 24-foot fixed radius macro-subplot centered at each of the 10 subplots. The macro subplots were mapped for forest conditions, and subplots were not rotated even if they fell into another condition. Factors that would determine a change in condition from subplot 1 were changes in forest type, stand size class, land use, and density. Each condition that occurred anywhere on one of the subplots was identified, described, and mapped. Each condition was assigned a condition number, and condition information was recorded.

On remeasurement plots, the rotated subplots and all the trees measured on the 1983 plot design were also measured to obtain change data such as growth and mortality. On new plots, subplots were not rotated. Hahn *et al.* (1995) presents further in-depth procedures.

a) New inventory plots

A systematic sample of the new photo plots was selected for field measurement. Ground plots were established, and measures of current classification such as land use, forest type, and ownership as well as size and condition of all trees on the plot were recorded. These locations were monumented for future remeasurement.

b) Old inventory plots

These plots were established, monumented, and measured as part of the 1983 field inventory. The procedures for these old plots were different from those for the new plots. Old plots were classed as "undisturbed" or "disturbed" in the aerial photo phase of the sampling process. All disturbed plots and a one-third sample of the undisturbed plots were remeasured to obtain estimates of current condition and changes since the last inventory. All trees measured on these plots in 1983 were remeasured or otherwise accounted for, and all new trees were identified and measured.

All sample plots that were timberland at the time of the 1983 inventory and determined to be undisturbed until the 1996 inventory were projected to the current time using STEMS. This procedure gives projected estimates of current volume and growth for these undisturbed plots. The comparison of the projected and observed values on the one-third sample of the undisturbed forest plots that were remeasured provided local calibration data to adjust the projected values of the undisturbed plots that were not remeasured. The adjustment procedure is a modified version of the method described by Smith (1983).

The undisturbed timberland plots that were not remeasured play a crucial role in the new survey design. These plots were determined to be undisturbed and had conditions that could be simulated by STEMS. The STEMS growth model was used to "grow" the old plot and tree data to produce an estimate of current data. Thus, these plots were treated as ground plots, even though they were never visited. The plot record for each modeled plot was sent to the field for verification of current ownership information.

All old plots classified as disturbed were sent to the field for remeasurement to assess and verify changes since the last inventory. Disturbance refers to any change on a plot that can be detected on aerial photos and that the STEMS growth processor cannot predict, such as catastrophic mortality, cutting, regenerating stands, and land use change.

The estimation procedure for computing statistics from this sampling design was more complicated than the simple two-phase estimation procedure used in the past. In fact, this procedure yielded two independent samples, one coming from the new photo points and the other coming from the old photo points that are remeasured or modeled. The tabulation on the next page summarizes the distribution of all ground plots for the new inventory design by type of plot:

Ground land use class	Old plots remeasured	Old plots updated	New plots	Total plots
Timberland	2,589	449	6,127	9,165
Reserved forest land	72	0	73	145
Other forest land	15	0	10	25
Nonforest with trees	276	25	697	998
Nonforest without trees	2,348	205	7,370	9,923
Water	166	41	477	684
Total	5,466	720	14,754	20,940

3. Area estimates

Area estimates were made using two-phase estimation methods. In this type of estimation, a preliminary estimate of area by land use is made from the aerial photographs (Phase 1) and corrected by the plot measurements (Phase 2). A complete description of this estimation method is presented by Loetsch and Haller (1964).

4. Volume estimates

Estimates of volume per acre were made from the trees measured or modeled on the 10-point plots. Estimates of volume per acre were multiplied by the area estimates to obtain estimates of total volume. Net cubic foot volumes are based on a modification of the method presented by Hahn (1984) for use in the Lake States. For the Wisconsin inventory, the merchantable height equation presented in Hahn (1984) was used in conjunction with Stone's equation (see Appendix I in Hahn 1984) to estimate gross volume. This estimate was then corrected by species for variation in bark and cull volume to yield an estimate of net volume, using the coefficients presented in Hahn (1984).

The Forest Service reports all board foot volume in International 1/4-inch rule. In Wisconsin, the Scribner log rule is commonly used. Scribner log rule conversion factors were derived from full tree measurements taken throughout the Lake States (Michigan, Wisconsin, and Minnesota) and an equation developed by Wiant and Castenaeda (1977). The factors (multipliers) used to convert board foot International volumes to the Scribner rule are shown in the following tabulation:

D.b.h. (inches)	Scribner rule conversion factor	
	Softwoods	Hardwoods
9.0-10.9	0.7830	—
11.0-12.9	.8287	0.8317
13.0-14.9	.8577	.8611
15.0-16.9	.8784	.8827
17.0-18.9	.8945	.8999
19.0-20.9	.9079	.9132
21.0-22.9	.9168	.9239
23.0-24.9	.9240	.9325
25.0-26.9	.9299	.9396
27.0-28.9	.9321	.9454
29.0+	.9357	.9544

5. Growth and mortality estimates

On remeasured plots, estimates of growth and mortality per acre come from the remeasured diameters of trees and from observation of trees that died between inventories. These estimates are based on the remeasurement of the 1983 inventory plots using the 1983 plot design. Growth reported as the average net annual growth between the two inventories (1983 and 1996) is computed from data on remeasured plots and modeled plots using methods presented by VanDeusen *et al.* (1986). Mortality is also average net annual for the remeasurement period. On new plots, estimates of growth and mortality were obtained by using STEMS to project the growth and mortality of trees for 1 year. Growth and mortality estimates for old undisturbed plots that were updated were derived in the same manner as remeasured plots. The STEMS growth model was adjusted by Survey Unit to meet local conditions, using data from the undisturbed remeasurement plots. As with volume, total growth and mortality estimates were obtained by multiplying the per acre estimates by area estimates. Current annual growth for 1995 was computed by using the adjusted STEMS model to grow all current inventory plots for 1 year.

6. Average annual removals estimates

Average annual growing-stock and sawtimber removals (1983 to 1995) were estimated only from the remeasured plots; (These estimates are based on the remeasurement of the 1983 inventory plots using the 1983 plot design) new plots and STEMS-projected plots were not used to estimate removals. These estimates are obtained from trees measured in the last survey and cut or otherwise removed from the timberland base. Because remeasurement plots make up about one-half of the total ground plots and not all remeasurement plots had cutting, average annual removals estimates have greater sampling errors than volume and growth estimates.

HABITAT TYPE CLASSIFICATION OF WISCONSIN

The 1996 inventory of Wisconsin's forest resources included the use of the Wisconsin Forest Habitat Type Classification System (Kotar *et al.* 1988, Kotar and Burger 1996). The habitat type groups are described as:

Habitat Type Groups - North

1. North, very dry to dry
This group represents the driest, least fertile soils of the region. Forests are dominated by pines (primarily jack and red pine) and poor quality oak. Red maple is the most shade tolerant species found on these sites and can replace other species in the absence of natural disturbance or management.

2. North, dry to dry-mesic
This group is a step up on the soil moisture-nutrient gradient from the preceding group. In addition to jack and red pines, white pine and red oak thrive on these types. White pine is sufficiently shade tolerant to reproduce naturally in mixed stands of oaks, aspen, red maple, and other pines.

3. North, dry-mesic to mesic
Soil moisture and nutrients are adequate to support shade tolerant, mesic species such as sugar maple, basswood, and white ash, but not at their optimal levels. Following natural disturbance or logging, red oak, red maple, or white pine often assume dominance in the stand. However, without natural disturbance or management, stands on these types tend to succeed to mesic hardwoods.

4. North, mesic
This group represents the best soil moisture-nutrient condition in the region. Shade tolerant, mesic hardwoods (sugar maple, basswood, white ash, American beech) or hemlock dominate most stands. Less shade tolerant species gain temporary dominance only following a major disturbance, especially by fire. However, fires are not frequent on these habitat types.

5. North, wet-mesic
This group represents a transition from upland to lowland forest. Sites with higher nutrient levels are dominated by mesic hardwoods (e.g., sugar maple, basswood, white ash) and sites with lower nutrient levels are dominated by hemlock, white pine, or balsam fir. Aspen or red maple often dominate successional stands on all habitat types of this group.

6. North, wet
These are distinctly lowland sites. No specific habitat types were identified. Forests are dominated by swamp conifers (e.g., northern white cedar, black spruce, balsam fir) or by red maple, black ash, or aspen.

7. North, boreal
The two habitat types in this group represent a special case where clayey soils and climate, modified by Lake Superior, historically supported upland forests dominated by balsam fir. Most of these sites are currently occupied by quaking aspen, but succession to balsam fir is evident.

Habitat Type Groups - South

8. South, dry
These types represent the driest, sandy soils primarily in central and western parts of the State. Jack pine, red pine, white pine, oaks, and/or aspen make up most of the stands. Communities are similar to those of northern dry habitat types, but often include white oak, black oak, and bur oak in addition to red and pin oaks. Red oak typically does not attain merchantable size.

9. South, dry-mesic 1
These habitat types represent better growth conditions for all species of oak as well as pine. Red maple also competes more strongly on these habitat types compared to those of the preceding group. In the absence of natural

disturbance or management, red maple is capable of replacing most other species. Sugar maple is absent.

10. South, dry-mesic 2
The soil moisture and nutrient levels on these habitat types are adequate to support moderate growth of mesic hardwoods such as sugar maple and basswood. Red and white oaks grow well on these types and make up the largest volume in present stands. However, in the absence of management, they tend to be replaced by mesic hardwoods.

11. South, dry-mesic 3
These types represent soil conditions similar to those of the preceding group, but they experienced a more intense fire disturbance regime in the presettlement time. As a result, mesic hardwoods have been virtually eliminated from the landscape and are not currently replacing oaks or other intolerant species. For these reasons, oak regeneration is relatively easy to achieve.

12. South, mesic 1
This group represents mesic, nutrient-rich sites that experienced relatively little fire disturbance in presettlement time and continue to be dominated by sugar maple, basswood, and white ash. Lack of natural disturbance, or management by light partial cutting, favors sugar maple dominance.

13. South, mesic 2
These habitat types occupy soils similar to those of the preceding group, but yhey experienced a more intense fire disturbance regime in presettlement time. As a result, stands are dominated by various shade-intolerant species, and mesic hardwoods are absent.

14. South, wet-mesic
This group represents poorly drained mineral soils. No specific habitat types have been identified. Best adapted species appear to be red maple and black ash, but many other species occur.

15. South, wet
This group represents swampy or boggy conditions with either mineral or organic soils. No specific habitat types have been identified. Best adapted species are black ash, red maple, and white pine on mineral soils and tamarack, black spruce, and white cedar on organic soils.

16. No habitat type group identified
No habitat type group was identified on the field plot.

In addition to the 16 habitat type groups, 96 specific habitat types were used in the 1996 inventory of Wisconsin's forest resources. A brief list of the species associated with each habitat type follows.

Index To Habitat Type Names

1. N - Very dry to dry

QAc	*Quercus macrocarpa/Arctostaphylos uva-ursi*
ArQTr	*Acer rubrum-Quercus ellipsoidalis/Trientalis borealis*
QArE	*Quercus rubra-Acer rubrum/Epigaea repens*
QGCe	*Quercus ellipsoidalis/Gaultheria procumbens-Ceanothus americanus*
ArQV	*Acer rubrum-Quercus rubra/Vaccinium angustifolium*
ArQV-Sm	*Acer rubrum-Quercus rubra/Vaccinium angustifolium, Smilacina racemosa variant*
QV	*Quercus ellipsoidalis/Vaccinium angustifolium*
QAp	*Quercus alba-Quercus ellipsoidalis/Amorpha canescens*

2. N - Dry to dry-mesic

PAm	*Pinus strobus/Amphicarpa bracteata*
PAm-At	*Pinus strobus/Amphicarpa bracteata, Athyrium filix-femina variant*
PMV	*Pinus strobus/Maianthemum canadense-Vaccinium angustifolium*
PMV-Q	*Pinus strobus/Maianthemum canadense-Vaccinium angustifolium, Quercus ellipsoidalis variant*
PMV-Vb	*Pinus strobus/Maianthemum canadense-Vaccinium angustifolium, Viburnum acerifolium variant*
PMV-Po	*Pinus strobus/Maianthemum canadense-Vaccinium angustifolium, Polygonatum pubescens variant*

3. N - Dry-mesic to mesic

FArAa	*Fagus grandifolia-Acer rubrum/Aralia nudicaulis*
AVVb	*Acer saccharum/Vaccinium*

	angustifolium-Viburnum acerifolium
AVDe	*Acer saccharum/Vaccinium angustifolium-Desmodium glutinosum*
ACl-V	*Acer saccharum/Clintonia borealis, Vaccinium spp. variant*
ACl	*Acer saccharum/Clintonia borealis*
AQVb-V	*Acer saccharum-Quercus rubra/ Viburnum acerifolium, Vaccinium angustifolium variant*
AQVb	*Acer saccharum-Quercus rubra/ Viburnum acerifolium*
AQVb-Ha	*Acer saccharum-Quercus rubra/ Viburnum acerifolium, Hamamelis virginiana variant*
AAt	*Acer saccharum/Athyrium filix-femina*
AFTPo	*Acer saccharum-Fagus grandifolia-Tsuga canadensis/ Polygonatum pubescens*
AVb	*Acer saccharum/Viburnum acerifolium*
AFVb	*Acer saccharum-Fagus grandifolia/ Viburnum acerifolium*

4. N - Mesic

ATM	*Acer saccharum-Tsuga canadensis/Maianthemum canadense*
AFSt	*Acer saccharum-Fagus grandifolia/ Streptopus roseus*
AAs	*Acer saccharum/Arisaema atrorubens*
ATFD	*Acer saccharum-Tsuga canadensis-Fagus grandifolia/ Dryopteris spinulosa*
ATD	*Acer saccharum-Tsuga canadensis/Dryopteris spinulosa*
ATDH	*Acer saccharum-Tsuga canadensis/Dryopteris spinulosa-Hydrophyllum virginianum*
ACaCi	*Acer saccharum/Caulophyllum thalictroides-Circaea quadrisulcata*
ACaCi-H	*Acer saccharum/Caulophyllum thalictroides-Circaea quadrisulcata, Hydrophyllum virginianum variant*
AFAl	*Acer saccharum-Fagus grandifolia/ Allium tricoccum*
AFAd	*Acer saccharum-Fagus grandifolia/ Adiantum pedatum*
AViO	*Acer saccharum/Viola pubescens-Osmorhiza claytoni*
AViO-Ca	*Acer saccharum/Viola pubescens-Osmorhiza claytoni, Caulophyllum thalictroides variant*
AHVb	*Acer saccharum/Hydrophyllum virginianum-Viburnum acerifolium*
AH-Ci	*Acer saccharum/Hydrophyllum virginianum, Circaea quadrisulcata variant*
AH	*Acer saccharum/Hydrophyllum virginianum*

5. N - Wet-mesic

ArCo	*Acer rubrum/Cornus canadensis*
TMC-V	*Tsuga canadensis/Maianthemum canadense-Coptis groenlandica, Vaccinium spp. variant*
TMC	*Tsuga canadensis/Maianthemum canadense-Coptis groenlandica*
TMC-D	*Tsuga canadensis/Maianthemum canadense-Coptis groenlandica, Dryopteris spinulosa variant*
ATM-As	*Acer saccharum-Tsuga canadensis/Maianthemum canadense, Arisaema atrorubens variant*
ATD-I	*Acer saccharum-Tsuga canadensis/Dryopteris spinulosa, Impatiens capensis variant*
ACaCi-I	*Acer saccharum/Caulophyllum thalictroides-Circaea quadrisulcata, Impatiens capensis variant*
AViO-I	*Acer saccharum/Viola pubescens-Osmorhiza claytoni, Impatiens capensis variant*
AH-I	*Acer saccharum/Hydrophyllum virginianum, Impatiens capensis variant*

Hydromesic North

6. N - Wet

Lowland North

7. N - Boreal

AbArSn	*Abies balsamea-Acer rubrum/ Sanicula marilandica*
AbASnMi	*Abies balsamea-Acer spp./Sanicula marilandica- Mitchella repens*

8. S - Dry

PVGy	*Pinus strobus/Vaccinium angustifolium-Gaylussacia baccata*
PEu	*Pinus strobus/Euphorbia corollata*
PVHa	*Pinus strobus/Vaccinium angustifolium-Hamamelis virginiana*
PVCr	*Pinus strobus/Vaccinium angustifolium-Cornus racemosa*
PVG	*Pinus strobus/Vaccinium angustifolium-Gaultheria procumbens*
PVRh	*Pinus strobus/Vaccinium angustifolium-Rubus hispidus*

9. S - Dry-mesic 1

ArDe-V	*Acer rubrum/Desmodium glutinosum, Vaccinium angustifolium variant*
ArDe	*Acer rubrum/Desmodium glutinosum*
AQVb-Gr	*Acer saccharum-Quercus rubra/ Viburnum acerifolium, Geranium maculatum variant*
ArCi	*Acer rubrum/Circaea quadrisulcata*
ArCi-Ph	*Acer rubrum/Circaea quadrisulcata, Phryma leptostachya variant*
AArVb	*Acer saccharum-Acer rubrum/ Viburnum acerifolium*
AArL	*Acer saccharum-Acer rubrum/ Lysimachia quadrifolia*

10. S - Dry-mesic 2

ATiDe-Ha	*Acer saccharum-Tilia americana/ Desmodium glutinosum, Hamamelis virginiana variant*
ATiDe-As	*Acer saccharum-Tilia americana/ Desmodium glutinosum, Arisaema atrorubens variant*
ATiDe	*Acer saccharum-Tilia americana/ Desmodium glutinosum*
ATiFrCi	*Acer saccharum-Tilia americana-Fraxinus americana/Circaea quadrisulcata*
ATiFrVb	*Acer saccharum-Tilia americana-Fraxinus americana/Viburnum spp.*
AFrDe	*Acer saccharum-Fraxinus americana/Desmodium glutinosum*
AFrDeO	*Acer saccharum-Fraxinus americana/Desmodium glutinosum-Osmorhiza claytoni*

11. S - Dry-mesic 3

ATiDe(Pr)	*Acer saccharum-Tilia americana/ Desmodium glutinosum, Prunus serotina phase*
ATiCr(O)	*Acer saccharum-Tilia americana/ Cornus racemosa, Osmorhiza claytoni phase*
ATiCr(As)	*Acer saccharum-Tilia americana/ Cornus racemosa, Arisaema atrorubens phase*
ATiFrVb(Cr)	*Acer saccharum-Tilia americana-Fraxinus americana/Viburnum spp., Cornus racemosa phase*
AFrDe(Vb)	*Acer saccharum-Fraxinus americana/Desmodium glutinosum, Viburnum spp. phase*

12. S - Mesic 1

ATTr	*Acer saccharum-Tsuga canadensis/Trientalis borealis*
AFTD	*Acer saccharum-Fagus grandifolia-Tsuga canadensis/Dryopteris spinulosa*
ATiSa-De	*Acer saccharum-Tilia americana/ Sanguinaria canadensis, Desmodium glutinosum variant*
ATiSa	*Acer saccharum-Tilia americana/ Sanguinaria canadensis*
ATiFrCa	*Acer saccharum-Tilia americana-Fraxinus americana/ Caulophyllum thalictroides*
ATiCa-La	*Acer saccharum-Tilia americana/ Caulophyllum thalictroides, Laportea canadensis variant*
ATiCa	*Acer saccharum-Tilia americana/ Caulophyllum thalictroides*
ATiCa-Al	*Acer saccharum-Tilia americana/ Caulophyllum thalictroides, Allium tricoccum variant*
ATiH	*Acer saccharum-Tilia americana/ Hydrophyllum virginianum*
AFH	*Acer saccharum-Fagus grandifolia/Hydrophyllum virginianum*
AFAs	*Acer saccharum-Fagus grandifolia/Arisaema atrorubens*
AFAs-O	*Acer saccharum-Fagus grandifolia/Arisaema atrorubens, Osmorhiza claytoni variant*

13. S - Mesic 2

ATiAs(De)	*Acer saccharum-Tilia americana/ Arisaema atrorubens, Desmodium glutinosum phase*
ATiFrCa(O)	*Acer saccharum-Tilia americana-Fraxinus americana/ Caulophyllum thalictroides, Osmorhiza claytoni phase*

14. S - Wet-mesic

Hydromesic South

15. S - Wet

Lowland South

16. No type identified

No habitat type was identified on the plot location.

TREE AND LOG GRADES

Log grades and tree grades are based on the classification of external characteristics as indicators of quality. Log grades and/or tree grades were taken on approximately one-third of the sample plots in Wisconsin. All sawtimber softwood sample trees were graded for quality and assigned a butt log grade. All sawtimber hardwood sample trees were graded for quality and assigned a tree grade. The volume yield by log grade or tree grade for this sample was used to distribute the volume of the ungraded sample trees by species group.

Hardwood sawtimber trees were graded according to "Hardwood Tree Grades for Factory Lumber" (Hanks 1976). The best 12-foot section of the lowest 16-foot hardwood log was used for grading. Hardwood sawtimber trees that did not meet minimum tree grade specifications for grades 1 through 3 were assigned grade 4 according to Forest Service standard specifications for hardwood construction logs described in "A Guide to Hardwood Log Grading" (Rast *et al.* 1973).

Red pine and jack pine sawtimber trees were graded based on specifications described in "Forest Service Log Grades for Southern Pines" (Campbell 1964). White pine and other softwood sawtimber trees were graded according to specifications described by Ostrander and Brisbin (1971). For all softwoods, the first merchantable 16-foot log, or shorter lengths down to 12 feet, was used for grading.

Hardwood Tree Grade for Factory Lumber [a]

Grade factor	Tree grade 1	Tree grade 2	Tree grade 3
Length of grading zone (feet)	Butt 16	Butt 16	Butt 16
Length of grading section [b] (feet)	Best 12	Best 12	Best 12
D.b.h., minimum (inches)	16[c]	13	11
D.i.b., minimum at top of grading section (inches)	13[c] 16 20	11[d] 12	8
Clear cuttings (on the 3 best faces)[e]			
Length, minimum (feet)	7 5 3	3 3	2
Number on face (maximum)	2	2 3	Unlimited
Yield in face length (minimum)	5/6	4/6	3/6
Cull deduction (including crook and sweep, but excluding shake) maximum within grading section (percent)	9	f	50

[a] Hanks (1976)

[b] Whenever a 14- or 16-foot section of the butt 16-foot log is better than the best 12-foot section, the grade of the longer section will become the grade of the tree. This longer section, when used, is the basis for determining the grading factors such as diameter and cull deduction.

[c] In basswood and ash, d.i.b. at top of grading section must be 12 inches and d.b.h. must be 15 inches.

[d] Grade 2 trees can be 10 inches d.i.b. at top of grading section if they otherwise meet surface requirements for small grade 1's.

[e] A clear cutting is a portion of a face free of defects, extending the width of the face. A face is one-fourth of the surface of the grading section as divided lengthwise.

[f] Fifteen percent crook and sweep or 40 percent total cull deduction are permitted in grade 2 trees, if size and surface of grading section qualify as grade 1. If rot shortens the required clear cuttings to the extent of dropping the butt log to grade 2, do not drop the tree's grade to 3 unless the cull deduction for rot is greater than 40 percent.

Forest Service Standard Specifications for Hardwood Construction Logs (tie and timber logs) [a, b]

Position in tree	Butts and uppers
Minimum diameter, small end	8 inches
Minimum length without trim	8 feet
Clear cuttings	No requirements
Sweep allowance	One-fourth of the diameter at the small end for each 8 feet of length.
Sound surface defects:	
Single knots	Any number, if no one knot has an average diameter above the callus in excess of one-third of the log diameter at point of occurrence.
Whorled knots	Any number, if the sum of knot diameters above the callus does not exceed one-third of the log diameter at point of occurrence.
Holes	Any number, provided none has a diameter over one-third of the log diameter at point of occurrence and none extends more than 3 inches into included timber[c].
Unsound surface defects:	Same requirements as for sound defects if they extend into included timber. No limit if they do not.

[a] Rast *et al.* (1973).

[b] These specifications are minimum for the class. If, from a group of logs, factory logs are selected first, thus leaving only nonfactory logs from which to select construction logs, then the quality range of the construction logs so selected is limited, and the class may be considered a grade. If selection for construction logs is given first priority, it may be necessary to subdivide the class into grades.

[c] Included timber is always square, and dimension is judged from small end.

Eastern White Pine Saw log Grade Specifications [a]

Grading factor	Log grade 1	Log grade 2	Log grade 3	Log grade 4
1. Minimum scaling diameter (inches)	14[b]	6	6	6
2. Minimum log length (feet)	10[c]	8	8	8
3. Maximum weevil injury (number)	None	None	2 injuries [d]	No limit
4. Minimum face requirements	Two full length or four 50%[e] length good faces (in addition, log knots on balance of faces shall not exceed size limit of grade 2 logs).	**NO GOOD FACES REQUIRED** Maximum diameter of log knots on three best faces: **SOUND RED KNOTS** not to exceed 1/6 scaling diameter and 3" maximum; not to exceed 1/3 scaling diameter and 5" maximum **OVERGROWN/DEAD/BLACK KNOTS** not to exceed 1/12 scaling diameter and 1 1/2" max.; not to exceed 1/6 scaling diameter and 2 1/2" max.		Includes all logs not qualifying for No. 3 or better and having at least 1/3 of their gross volume in sound wood suitable for manufacture into standard lumber
5. Maximum sweep or crook (%)	20	30	40	66 2/3
6. Maximum total scaling deduction (%)	50	50	50	66 2/3

After the tentative grade is established from face examination, the grade will be reduced whenever the following defects are evident:

7. Conks, punk knots, and pine borer damage on bark surface. [f]
   Degrade one grade if present on one face.
   Degrade two grades if present on two faces.
   Degrade three grades if present on three or more faces.

8. Log end defects: red rot, ring shake, heavy stain, and pine borer damage outside the heart center of log. [f] Consider log as having a total of 8 quarters (4 on each end) and degrade as indicated.
   Degrade one grade if present in 2 quarters of log ends.
   Degrade two grades if present in 3 or 4 quarters of log ends.
   Degrade three grades if present in 5 or more quarters of log ends.

a. Ostrander and Brisbin (1971)
b. 12- and 13-inch logs with four full-length good faces are acceptable.
c. 8-foot logs with four full-length good faces are acceptable.
d. 8-foot Number 3 logs limited to one weevil injury.
e. Minimum 50% length good face must be at least 6 feet.
f. Factors 7 and 8 are not cumulative (total degrade based on more serious of the two). No log is to be degraded below grade 4 if net scale is at least one-third of gross scale.

Log Grades for Jack Pine and Red Pine [a]

Grade 1: Trees with three or four clear faces on the 16-foot grading section.[b]
Grade 2: Trees with one or two clear faces on the 16-foot grading section.
Grade 3: Trees with no clear faces on the 16-foot grading section.

After the tentative grade is established from above, the tree will be reduced one grade for each of the following, except that no tree can be reduced below grade 3, provided the total scaling deductions for sweep and/or rot do not exceed two-thirds of the gross scale of the tree.

Sweep. Degrade any tentative grade 1 or 2 tree one grade if sweep in the lower 12 feet of grading sections amounts to 3 or more inches and equals or exceeds one-fourth of the diameter at breast height.

Heart rot. Degrade any tentative grade 1 or 2 tree one grade if conk, punk knots, massed hyphae, or other evidence of advanced heart rot is found anywhere on the main tree stem.

[a] Campbell (1964)

[b] A face is one-fourth of the circumference in width extending full length of the grading section. Clear faces are those free of: knots measuring more than 1/2-inch in diameter, overgrown knots of any size, and holes more than 1/4-inch in diameter. Faces may be rotated to obtain the maximum number of clear on the grading section.

Log Grades for All Other Softwood Logs

Grade 1

1. Trees must be 16 inches in diameter or larger, grading section 12 feet in length or longer, and with deduction for defect not over 30 percent of gross scale.

2. Trees must be at least 75 percent clear on each of three faces.

3. All knots outside clear cutting must be sound and not more than 2-1/2 inches in size.

Grade 2

1. Trees must be 12 inches in diameter or larger, grading section 12 feet in length or longer, and with a net scale after deduction for defect of at least 50 percent of the gross scale deducted for defect.

2. Trees must be at least 50 percent clear on each of three faces or 75 percent clear on two faces.

Grade 3

1. Trees must be 6 inches in diameter or larger, grading section 12 feet in length or longer, and with a net scale after deduction for defect of at least 50 percent of the gross contents of the log.

Note: Diameters are diameter inside bark (d.i.b.) at small end of grading section. Percent clear refers to percent clear in one continuous section.

METRIC EQUIVALENTS

1 acre = 4,046.86 square meters or 0.405 hectare.
1,000 acres = 405 hectares.
1 cubic foot = 0.0283 cubic meter.
1 foot = 30.48 centimeters or 0.3048 meter.
1 inch = 25.4 millimeters, 2.54 centimeters, or 0.0254 meter.
1 pound = 0.454 kilograms.
1 ton = 0.907 metric tons.

TREE SPECIES GROUPS IN WISCONSIN

(Little 1981)

SOFTWOODS[2]

Balsam fir ..... *Abies balsamea*
Eastern redcedar ..... *Juniperus virginiana*
Tamarack ..... *Larix laricina*
White spruce ..... *Picea glauca*
Black spruce ..... *P. mariana*
Eastern white pine ..... *Pinus strobus*
Red pine ..... *P. resinosa*
Jack pine ..... *P. banksiana*
Northern white-cedar ..... *Thuja occidentalis*
Eastern hemlock ..... *Tsuga canadensis*
Other softwoods
- European larch ..... *Larix decidua*
- Norway spruce ..... *Picea abies*
- Colorado (blue) spruce ..... *P. pungens*
- Scotch pine ..... *P. sylvestris*

HARDWOODS

Hard maples[1]
- Black maple ..... *Acer nigrum*
- Sugar maple ..... *A. saccharum*

Soft maples[2]
- Red maple ..... *A. rubrum*
- Silver maple ..... *A. saccharinum*

Birches
- Yellow birch[1] ..... *Betula alleghaniensis*
- River birch[2] ..... *B. nigra*
- Paper birch[2] ..... *B. papyrifera*

Select hickories[1]
- Shagbark hickory ..... *Carya ovata*

Other hickories[1]
- Bitternut hickory ..... *C. cordiformis*

Hackberry[2] ..... *Celtis occidentalis*
American beech[1] ..... *Fagus grandifolia*
Ashes
- White ash[1] ..... *Fraxinus americana*
- Black ash[2] ..... *F. nigra*
- Green ash[1] ..... *F. pennsylvanica*

Butternut[2] ..... *Juglans cinerea*
Black walnut[1] ..... *Juglans nigra*
Black tupelo[2] ..... *Nyssa sylvatica* var. *sylvatica*
Balsam poplar[2] ..... *Populus balsamifera*
Eastern cottonwood[2] ..... *P. deltoides*
Aspens[2]
- Bigtooth aspen ..... *P. grandidentata*
- Quaking aspen ..... *P. tremuloides*

Black cherry[2] ..... *Prunus serotina*
Select white oaks[1]
- White oak ..... *Quercus alba*
- Swamp white oak ..... *Q. bicolor*
- Bur oak ..... *Q. macrocarpa*
- Chinkapin oak ..... *Q. muehlenbergii*

Select red oak[1]
- Northern red oak ..... *Q. rubra*

Other red oaks[1]
- Northern pin oak ..... *Q. ellipsoidalis*
- Black oak ..... *Q. velutina*

Black willow[2] ..... *Salix nigra*
American basswood[2] ..... *Tilia americana*
Elms
- American elm[2] ..... *Ulmus americana*
- Siberian elm[2] ..... *U. pumila*
- Slippery elm[2] ..... *U. rubra*
- Rock elm[1] ..... *U. thomasii*

Other hardwoods
- Boxelder[2] ..... *Acer negundo*
- Northern catalpa[2] ..... *Catalpa speciosa*
- Honeylocust[1] ..... *Gleditsia triacanthos*
- Red mulberry[2] ..... *Morus rubra*
- White poplar[2] ..... *Populus alba*
- Black locust[1] ..... *Robinia pseudoacacia*

Noncommercial species
- Striped maple ..... *Acer pensylvanicum*
- Mountain maple ..... *A. spicatum*
- Ailanthus ..... *Ailanthus altissima*
- American hornbeam ..... *Carpinus caroliniana*
- Flowering dogwood ..... *Cornus florida*
- Hawthorn ..... *Crataegus* spp.
- Osage-orange ..... *Maclura pomifera*
- Apple ..... *Malus* spp.
- Eastern hophornbeam ..... *Ostrya virginiana*
- Pincherry ..... *Prunus pennsylvanica*
- Wild plum ..... *Prunus* spp.
- Chokecherry ..... *P. virginiana*
- Peachleaf willow ..... *Salix amygdaloides*
- Diamond willow ..... *S. bebbiana*
- American mountain ash ... *Sorbus americana*

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[1] *This species or species group is considered a hard hardwood, with an average specific gravity greater than or equal to 0.50.*

[2] *This species or species group is considered a soft hardwood, with an average specific gravity of less than 0.50.*

DEFINITION OF TERMS

Average annual mortality of growing stock.—The average cubic foot volume of sound wood in growing-stock trees that died in one year. Average annual mortality is the average for the years between inventories (1983 to 1995 in this report).

Average annual mortality of sawtimber.—The average board foot volume of sound wood in sawtimber trees that died in one year. Average annual mortality is the average for the years between inventories (1983 to 1995 in this report).

Average annual removals from growing stock.—The average net growing-stock volume in growing-stock trees removed annually for roundwood forest products, in addition to the volume of logging residues, and the volume of other removals. Average annual removals of growing stock are the average for the years between inventories (1983 to 1995 in this report) and are based on information obtained from remeasurement plots (see Survey Procedures in Appendix).

Average annual removals from sawtimber.—The average net board foot sawtimber volume of live sawtimber trees removed annually for roundwood forest products, in addition to the volume of logging residues, and the volume of other removals. Average annual removals of sawtimber are the average for the years between inventories (1983 to 1995 in this report) and are based on information obtained from remeasurement plots (see Survey Procedures in Appendix).

Average annual net growth of growing stock.—The annual change in cubic foot volume of sound wood in live sawtimber and poletimber trees, and the total volume of trees entering these classes through ingrowth, less volume losses resulting from natural causes. Average net annual growing stock is the average for the years between inventories (1983 to 1995 in this report).

Average annual net growth of sawtimber.—The annual change in the board foot volume of live sawtimber trees, and the total volume of trees reaching sawtimber size, less volume losses resulting from natural causes. Average net annual growth of sawtimber is the average for the years between inventories (1983 to 1995 in this report).

Basal area.—Tree area in square feet of the cross section at breast height of a single tree. When the basal areas of all trees in a stand are summed, the result is usually expressed as square feet of basal area per acre.

Biomass.—The aboveground volume of all live trees (including bark but excluding foliage) reported in green tons (i.e., green weight). Biomass has four components:

Bole.—Biomass of a tree from 1 foot above the ground to a 4-inch top outside bark.

Tops and limbs.—Total biomass of tree from a 1-foot stump minus the bole.

1- to 5-inch trees.—Total aboveground biomass of a tree from 1 to 5 inches in diameter at breast height.

Stump.—Biomass of a tree 5 inches d.b.h. and larger from the ground to a height of 1 foot.

Bolts.—Roundwood logs of less than 8 feet in length that are converted into shingles, cooperage stock, dimension stock, blocks, blanks, excelsior, etc. No minimum diameter limits. Does not include logs used for the manufacture of pulp or veneer.

Commercial species.—Tree species presently or prospectively suitable for industrial wood products. (Note: Excludes species of typically small size, poor form, or inferior quality such as hophornbeam, Osage-orange, and redbud.)

Cord.—One standard cord is 128 cubic feet of stacked wood, including bark and air space. Cubic feet can be converted to solid wood standard cords by dividing by 79.

Corporate.—Lands owned by a private corporation not in the business of operating primary wood-using plants.

County and municipal land.—Land owned by counties and local public agencies or municipalities, or land leased to these governmental units for 50 years or more.

Cropland.—Land under cultivation within the last 24 months; including cropland harvested, crop failures, cultivated summer fallow, idle cropland used only for pasture,

orchards, active Christmas tree plantations indicated by annual shearing, nurseries, and land in soil improvement crops, but excluding land cultivated in developing improved pasture.

Cull.—Portions of a tree that are unusable for industrial wood products because of rot, missing or dead material, form, or other defect.

Current annual net growth of growing stock.—The annual change in volume of sound wood in live sawtimber and poletimber trees, and the total volume of trees entering these classes through ingrowth, less volume losses resulting from natural causes, reported for a single year (1995 in this report). Current growth is based on an estimate of the current annual increment of each growing-stock tree in the inventory.

Current annual net growth of sawtimber.—The annual change in the volume of live sawtimber trees, and the total volume of trees reaching sawtimber size, less volume losses resulting from natural causes, reported for a single year (1995 in this report). Current growth is based on an estimate of the current annual increment of each growing-stock tree in the inventory.

Current annual removals from growing stock.—The current net growing-stock volume in growing-stock trees removed annually for roundwood forest products, in addition to the volume of logging residues, and the volume of other removals. Current annual removals of growing stock are reported for a single year (1995 in this report); they are based on a survey of primary wood processing mills to determine removals for products and on information from remeasurement plots (see Survey Procedures in Appendix) to determine removals due to land use change.

Current annual removals from sawtimber.—The current net board foot sawtimber volume of live sawtimber trees removed annually for roundwood forest products, in addition to the volume of logging residues, and the volume of other removals. Current annual removals of sawtimber are reported for a single year (1995 in this report); they are based on a survey of primary wood processing mills to determine removals for products and on information from remeasurement plots (see Survey Procedures in Appendix) to determine removals due to land use change.

Diameter class.—A classification of trees based on diameter outside bark, measured at breast height 4.5 feet above the ground. (Note d.b.h. is the common abbreviation for diameter at breast height.) Two-inch diameter classes are commonly used in Forest Inventory and Analysis, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h.

Diameter at breast height (d.b.h.).—The outside bark diameter at 4.5 feet (1.37 m) above the forest floor on the uphill side of the tree. For determining breast height, the forest floor includes the duff layer that may be present, but does not include unincorporated woody debris that may rise above the ground line.

Forest industry land.—Land owned by companies or individuals operating primary wood-using plants.

Forest land.—Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use. (Note: Stocking is measured by comparing specified standards with basal area and/or number of trees, age or size, and spacing.) The minimum area for classification of forest land is 1 acre. Roadside, streamside, and shelterbelt strips of timber must have a crown width of at least 120 feet to qualify as forest land. Unimproved roads and trails, streams, or other bodies of water or clearings in forest areas shall be classed as forest if less than 120 feet wide. (See Tree, Land, Timberland, Reserved forest land, Other forest land, Stocking, and Water.)

Forest type.—A classification of forest land based on the species forming a plurality of live tree stocking. The associated species for each forest type are based on net volume of growing stock and all live biomass by species group. Major forest types in the State are:

Jack pine.—Forests in which jack pine comprises a plurality of the stocking. Species commonly associated with the jack pine forest type in Wisconsin include red pine, red oaks, aspen, and eastern white pine.

Red pine.—Forests in which red pine comprises a plurality of the stocking. Species commonly associated with the red pine forest type in Wisconsin include eastern white pine, jack pine, and aspen.

Eastern white pine.—Forests in which eastern white pine comprises a plurality of the stocking. Species commonly associated with the eastern white pine forest type in Wisconsin include red pine, aspen, red maple, paper birch, and red oak.

Balsam fir.—Forests in which balsam fir and white spruce comprise a plurality of stocking, with balsam fir the most common. Species commonly associated with the balsam fir forest type in Wisconsin include white spruce, aspen, northern white-cedar, tamarack, paper birch, red maple, black spruce, and eastern white pine.

White spruce.—Forests in which white spruce and balsam fir comprise a plurality of the stocking, with white spruce the most common. Species commonly associated with the white spruce forest type in Wisconsin include aspen, paper birch, balsam fir, eastern white pine, red maple, and northern white-cedar.

Black spruce.—Forests in which swamp conifers comprise a plurality of the stocking, with black spruce the most common. Species commonly associated with the black spruce forest type in Wisconsin include tamarack, balsam fir, eastern white pine, northern white-cedar, aspen, jack pine, and paper birch.

Northern white-cedar.—Forests in which swamp conifers comprise a plurality of the stocking, with northern white-cedar the most common. Species commonly associated with the northern white-cedar forest type in Wisconsin include balsam fir, paper birch, black spruce, tamarack, black ash, red maple, and aspen.

Tamarack.—Forests in which swamp conifers comprise a plurality of the stocking, with tamarack the most common. Species commonly associated with the tamarack forest type in Wisconsin include northern white-cedar, black spruce, red maple, white pine, balsam fir, and paper birch.

Oak-hickory.—Forests in which northern red oak, white oak, bur oak, or hickories, singly or in combination, comprise a plurality of the stocking. Species commonly associated with the oak-hickory forest type in Wisconsin include red maple, aspen, and black cherry.

Elm-ash-soft maple.—Forests in which lowland elm, ash, red maple, silver maple, and cottonwood, singly or in combination, comprise a plurality of the stocking. Species commonly associated with the elm-ash-soft maple forest type in Wisconsin include northern white-cedar, aspen, cottonwood, and balsam fir.

Maple-beech-birch.—Forests in which sugar maple, yellow birch, American elm, and red maple, singly or in combination, comprise a plurality of the stocking. Species commonly associated with the maple-beech-birch forest type in Wisconsin include basswood, eastern hemlock, green and white ash, aspen, black cherry, and select red oaks.

Aspen.—Forests in which quaking aspen or bigtooth aspen, singly or in combination, comprise a plurality of the stocking. Species commonly associated with the aspen forest type in Wisconsin include red maple, paper birch, balsam fir, and select red oaks.

Paper birch.—Forests in which paper birch comprises a plurality of the stocking. Species commonly associated with the paper birch forest type in Wisconsin include aspen, red maple, balsam fir, northern white-cedar, sugar maple, and balsam poplar.

Balsam poplar.—Forests in which balsam poplar comprises a plurality of the stocking. Species commonly associated with the balsam poplar forest type in Wisconsin include balsam fir, aspen, northern white-cedar, paper birch, black ash, and white spruce.

Growing-stock tree.—A live tree of commercial species that meets specified standards of size, quality, and merchantability. (Note: Excludes rough, rotten, and dead trees.)

Growing-stock volume.—Net volume in cubic feet of growing-stock trees 5.0 inches d.b.h. and over, from 1 foot above the ground to a minimum 4.0-inch top diameter outside bark of the central stem or to the point where the central stem breaks into limbs.

Hard hardwoods.—Hardwood species with an average specific gravity greater than 0.50 such as oaks, hard maple, hickories, and ash.

Hardwoods.—Dicotyledonous trees, usually broad-leaved and deciduous. (See Soft hardwoods and Hard hardwoods.)

Improved pasture.—Land currently improved for grazing by cultivating, seeding, irrigating, or clearing trees or brush and less than 16.7 percent stocked with trees.

Indian land.—Land held in trust by the United States for tribes or individual Indians.

Industrial wood.—All roundwood products except residential fuelwood.

Land.—*A. Bureau of the Census.* Dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than one-eighth of a statute mile wide; and lakes, reservoirs, and ponds less than 40 acres in area.

B. Forest Inventory and Analysis. The same as the Bureau of the Census, except minimum width of streams, etc., is 120 feet and minimum size of lakes, etc., is 1 acre.

Live trees.—Growing-stock, rough, and rotten trees 1.0 inch d.b.h. and larger.

Log grade.—A log classification based on external characteristics as indicators of quality or value. Log grade was assigned to a sample of softwood sawtimber trees throughout the State during the 1996 inventory. Also see Tree grade. (See Appendix for specific grading factors used.)

Logging residue.—The unused portions of cut trees, plus unused trees killed by logging.

Marsh.—Nonforest land that characteristically supports low, generally herbaceous or shrubby vegetation, and that is intermittently covered with water.

Merchantable.—Refers to a pulpwood or saw-log section that meets pulpwood or saw-log specifications, respectively.

Miscellaneous Federal land.—Federal land other than National Forest and land administered by the Bureau of Land Management or Bureau of Indian Affairs.

National Forest land.—Federal land that has been legally designated as National Forest or purchase units, and other land administered by the USDA Forest Service.

Net volume.—Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.

Noncommercial species.—Tree species of typically small size, poor form, or inferior quality that normally do not develop into trees suitable for industrial wood products.

Nonforest land.—Land that has never supported forests, and land formerly forested where use for timber management is precluded by development for other uses. (Note: Includes areas used for crops, active Christmas tree plantations as indicated by annual shearing, orchards, nurseries, improved pasture, residential areas, city parks, improved roads of any width and adjoining clearings, powerline clearings of any width, and 1- to 40-acre areas of water classified by the Bureau of the Census as land.) If intermingled in forest areas, unimproved roads and nonforest strips must be more than 120 feet wide and more than 1 acre in area to qualify as nonforest land.

a. Nonforest land without trees.—Nonforest land with no live trees present.

b. Nonforest land with trees.—Nonforest land with one or more trees per acre at least 5 inches d.b.h.

Nonstocked land.—Timberland less than 16.7 percent stocked with all live trees.

Other forest land.—Forest land not capable of producing 20 cubic feet per acre per year of industrial wood crops under natural conditions and not associated with urban or rural development. Many of these sites contain tree species that are not currently utilized for industrial wood production or trees of poor form, small size, or inferior quality that are unfit for most industrial products. Unproductivity may be the result of adverse site conditions such as sterile soil, dry climate,

poor drainage, high elevation, and rockiness. This land is not withdrawn from timber utilization.

Other removals.—Growing-stock trees removed but not utilized for products, or trees left standing but "removed" from the timberland classification by land use change. Examples are removals from cultural operations such as timber stand improvement work and land clearing, and the standing volume on land classified originally as timberland but later designated as reserved from timber harvesting (such as a newly established State park).

Ownership size class.—The amount of timberland owned by one owner, regardless of the number of parcels.

Pasture.—Land presently used for grazing or under cultivation to develop grazing.

Physiographic class.—A measure of soil and water conditions that affect tree growth on a site. The physiographic classes are:

Xeric sites.—Very dry soils where excessive drainage seriously limits both growth and species occurrence. Example: sandy jack pine plains.

Xeromesic sites.—Moderately dry soils where excessive drainage limits growth and species occurrence to some extent. Example: dry oak ridge.

Mesic sites.—Deep, well-drained soils. Growth and species occurrence are limited only by climate. Example: well-drained terraces of loamy soil.

Hydromesic sites.—Moderately wet soils where insufficient drainage or infrequent flooding limits growth and species occurrence to some extent. Example: moderately drained bottomland hardwood sites.

Hydric sites.—Very wet sites where excess water seriously limits both growth and species occurrence. Example: frequently flooded river bottoms and black spruce swamps.

Plant byproducts.—Plant residues used for products such as mulch, pulp chips, and fuelwood.

Plantation.—An artificially reforested area sufficiently productive to qualify as timberland. The planted species is not necessarily predominant. Christmas tree plantations, which are considered cropland, are not included.

Plant residues.—Wood and bark materials generated at manufacturing plants during production of other products.

Poletimber stand.—(See Stand-size class.)

Poletimber tree.—A live tree of commercial species at least 5.0 inches d.b.h., but smaller than sawtimber size.

Potential productivity class.—A classification of forest land in terms of inherent capacity to grow crops of industrial wood. The class identifies the potential growth in merchantable cubic feet/acre/year at culmination of mean annual increment of fully stocked natural stands.

Private individual land.—Privately owned land not owned by forest industry. This class includes the formerly used Farmer and Miscellaneous private classes.

Reserved forest land.—Forest land withdrawn from timber utilization through statute, administrative regulation, or designation. Note: historically, Christmas tree plantations were classified as reserved forest land. However, Christmas tree plantations are now classified as cropland.

Rotten tree.—Live trees of commercial species that do not contain at least one 12-foot saw log or two saw logs 8 feet or longer, now or prospectively, and/or do not meet regional specifications for freedom from defect primarily because of rot; that is, when more than 50 percent of the cull volume in a tree is rotten.

Rough tree.—(a) Live trees of commercial species that do not contain at least one merchantable 12-foot saw log or two saw logs 8 feet or longer, now or prospectively, and/or do not meet regional specifications for freedom from defect primarily because of roughness or poor form, and (b) all live trees of noncommercial species.

Roundwood products.—Logs, bolts, or other round sections (including chips from roundwood) cut from trees for industrial or consumer uses. (Note: includes saw logs,

veneer logs, and bolts; cooperage logs and bolts; pulpwood; fuelwood; pilings; poles; posts; hewn ties; mine timbers; and various other round, split, or hewn products.)

Salvable dead tree.—A standing or down dead tree considered merchantable by regional standards.

Sapling.—A live tree 1.0 to 5.0 inches d.b.h.

Sapling-seedling stand.— (See Stand-size class.)

Saw log.—A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight and with a minimum diameter outside bark (d.o.b.) for softwoods of 7.0 inches (9.0 inches for hardwoods) or other combinations of size and defect specified by regional standards.

Saw-log portion.—That part of the bole of sawtimber trees between the stump and the saw-log top.

Saw-log top.—The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw-log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

Sawtimber stand.—(See Stand-size class.)

Sawtimber tree.—A live tree of commercial species containing at least a 12-foot saw log or two noncontiguous saw logs 8 feet or longer, and meeting regional specifications for freedom from defect. Softwoods must be at least 9.0 inches d.b.h. Hardwoods must be at least 11.0 inches d.b.h.

Sawtimber volume.—Net volume of the saw-log portion of live sawtimber in board feet, International 1/4-inch rule (unless specified otherwise), from stump to a minimum 7.0 inches top d.o.b. for softwoods and a minimum 9.0 inches top d.o.b. for hardwoods.

Seedling.—A live tree less than 1.0 inch d.b.h. that is expected to survive. Only softwood seedlings more than 6 inches tall and hardwood seedlings more than 1 foot tall are counted.

Short-log (rough tree).—A sawtimber-size tree of commercial species that contains at least one merchantable 8- to 11-foot saw log but not a 12-foot saw log.

Shrub.—A woody, perennial plant differing from a perennial herb in its persistent and woody stem(s) and less definitely from a tree in its lower stature and/or the general absence of a well-defined main stem. For this report, shrubs were separated somewhat arbitrarily into tall and low shrubs as follows:

Tall shrubs.—Normally taller than 1.6 to 3.2 feet (0.5 to 1.0 meter).

Low shrubs.—Normally shorter than 1.6 to 3.2 feet (0.5 to 1.0 meter). (Woody perennial vines, such as grape, were included with low shrubs.)

Shrub and tree seedling biomass.—The total aboveground weight of trees less than 1.0 inch in diameter and all shrubs.

Site index.—An expression of forest site quality based on the height of a free-growing dominant or codominant tree of a representative species in the forest type at age 50.

Soft hardwoods.—Hardwood species with an average specific gravity less than 0.50, such as cottonwood, red maple, basswood, and willow.

Softwoods.—Coniferous trees, usually evergreen, having needles or scale-like leaves.

Stand.—A group of trees on a minimum of 1 acre of forest land that is stocked by forest trees of any size.

Stand-age class.—A classification based on age of the main stand. Main stand refers to trees of the dominant forest type and stand-size class.

Stand-size class.—A classification of stocked (see Stocking) forest land based on the size class of live trees on the area; that is, sawtimber, poletimber, or seedlings and saplings.

Sawtimber stands.—Stands with half or more of live tree stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Poletimber stands.—Stands with half or more of live tree stocking in poletimber and/or sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

Sapling-seedling stands.—Stands with more than half of the live tree stocking in saplings and/or seedlings.

State land.—Land owned by the State of Wisconsin or leased to it for 50 years or more.

Stocking.—The degree of occupancy of land by live trees, measured by basal area and/or the number of trees in a stand by size or age and spacing, compared to the basal area and/or number of trees required to fully utilize the growth potential of the land; that is, the stocking standard. A stocking percent of 100 indicates full utilization of the site and is equivalent to 80 square feet of basal area per acre in trees 5.0 inches d.b.h. and larger. In a stand of trees less than 5 inches d.b.h., a stocking percent of 100 would indicate that the present number of trees is sufficient to produce 80 square feet of basal area per acre when the trees reach 5 inches d.b.h.

Stands are grouped into the following stocking classes:

Overstocked stands.—Stands in which stocking of live trees is 133.0 percent or more.

Fully stocked stands.—Stands in which stocking of live trees is from 100.0 to 132.9 percent.

Medium stocked stands.—Stands in which stocking of live trees is from 60.0 to 99.9 percent.

Poorly stocked stands.—Stands in which stocking of live trees is from 16.7 to 59.9 percent.

Nonstocked areas.—Timberland on which stocking of live trees is less than 16.7 percent.

Timber products output.—All timber products cut from roundwood and byproducts of wood manufacturing plants. Roundwood products include logs, bolts, or other round sections cut from growing-stock trees, cull trees, salvable dead trees, trees on nonforest land, noncommercial species, sapling-size trees, and limbwood. Byproducts from primary manufacturing plants include slabs, edging, trimmings, miscuts, sawdust, shavings, veneer cores and clippings, and screenings of pulpmills that are used as pulpwood chips or other products.

Timberland.—Forest land that is producing, or is capable of producing, more than 20 cubic feet per acre per year of industrial wood crops under natural conditions, that is not withdrawn from timber utilization, and that is not associated with urban or rural development. Currently inaccessible and inoperable areas are included. (Timberland was formerly called commercial forest land.)

Tree.—A woody plant usually having one or more erect perennial stems, a stem diameter at breast height of at least 3 inches, a more or less definitely formed crown of foliage, and a height of at least 13 feet at maturity.

Tree biomass.—The total aboveground weight (including the bark but excluding the foliage) of all trees from 1 to 5 inches in d.b.h., and the total aboveground weight (including the bark but excluding the foliage) from a 1-foot stump for trees more than 5 inches in diameter.

Tree grade.—A classification of the lower 16 feet of the bole of standing trees based on external characteristics as indicators of the quality and quantity of lumber that could be produced from the tree. Tree grade was assigned to a sample of hardwood sawtimber trees during the 1996 inventory. Also see Log grade. (See Appendix for specific grading factors used.)

Tree size class.—A classification of trees based on diameter at breast height, including sawtimber trees, poletimber trees, saplings, and seedlings.

Upper stem portion.—That part of the bole of sawtimber trees above the saw-log top to a minimum top diameter of 4.0 inches d.o.b. or to the point where the central stem breaks into limbs.

Urban and other areas.—Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; school yards; cemeteries; roads; railroads; airports;

beaches; powerlines and other rights-of-way; or other nonforest land not included in any other specified land use class.

Urban forest land.—Land that would otherwise meet the criteria for timberland, but is in an urban-suburban area surrounded by commercial, industrial, or residential development and not likely to be managed for the production of industrial wood products on a continuing basis. Wood removed would be for land clearing, fuelwood, or esthetic purposes. Such forest land may be associated with industrial, commercial, residential subdivision, industrial parks, golf course perimeters, airport buffer strips, and public urban parks that qualify as forest land.

Water.—*(a) Bureau of the Census.*—Permanent inland water surfaces, such as lakes, reservoirs, and ponds at least 40 acres in area; and streams, sloughs, estuaries, and canals at least one-eighth of a statute mile wide.

(b) Noncensus.—Permanent inland water surfaces, such as lakes, reservoirs, and ponds from 1 to 39.9 acres in area; and streams, sloughs, estuaries, and canals from 120 feet to one-eighth of a statute mile wide.

Wooded pasture.—Improved pasture with more than 16.7 percent stocking in live trees, but less than 25 percent stocking in growing-stock trees. Area is currently improved for grazing or there is other evidence of grazing.

Wooded strip.—An acre or more of natural continuous forest land that would otherwise meet survey standards for timberland except that it is less than 120 feet wide.

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TABLE TITLES

Table 1.—Area of land by Forest Survey Unit, county, and major land-use class, Wisconsin, 1996

Table 2.—Area of timberland by Forest Survey Unit, county, and ownership class, Wisconsin, 1996

Table 3.—Area of timberland by Forest Survey Unit, county, and forest type group/ local type, Wisconsin, 1996

Table 4.—Area of timberland by Forest Survey Unit, county, and stand-size class, Wisconsin, 1996

Table 5.—Area of timberland by Forest Survey Unit, county, and potential productivity class, Wisconsin, 1996

Table 6.—Area of timberland by Forest Survey Unit, county, and stocking class of growing-stock trees, Wisconsin, 1996

Table 7.—Area of timberland by forest type group/local type and ownership class, Wisconsin, 1996

Table 8.—Area of timberland by ownership class and stocking class of growing-stock trees, Wisconsin 1996

Table 9.—Area of timberland by forest type group/local type and stand-size class, Wisconsin, 1996

Table 10.—Number of all live trees on timberland by species group and diameter class, Wisconsin, 1996

Table 11.—Number of growing-stock trees on timberland by species group and diameter class, Wisconsin, 1996

Table 12.—Net volume of growing stock on timberland by species group and diameter class, Wisconsin, 1996

Table 13.—Net volume of growing stock in the saw-log portion of sawtimber trees on timberland by species group and diameter class, Wisconsin, 1996

Table 14.—Net volume of sawtimber on timberland by species group and diameter class, Wisconsin, 1996

Table 15.—Net volume of sawtimber on timberland by species group, grade, diameter class, and Forest Survey Unit, Wisconsin, 1996

Table 16.—Net volume of growing stock and sawtimber on timberland by Forest Survey Unit, county, and major species group, Wisconsin, 1996

Table 17.—Net volume of all live trees and salvable dead trees on timberland by class of timber and major species group, Wisconsin, 1996

Table 18.—Net volume of all live trees and growing-stock trees on timberland by ownership class and major species group, Wisconsin, 1996

Table 19.—Net volume of growing stock on timberland by forest type group/ local type and major species group, Wisconsin, 1996

Table 20.—Average net annual growth of growing stock and sawtimber on timberland by Forest Survey Unit, county, and major species group, Wisconsin, 1983-1995

Table 21.—Average annual removals of growing stock and sawtimber on timberland by Forest Survey Unit, county, and major species group, Wisconsin, 1983-1995

Table 22.—Average net annual growth and average annual removals of growing stock and sawtimber on timberland by species group, Wisconsin, 1983-1995

Table 23.—Average annual mortality of growing stock and sawtimber on timberland by species group, Wisconsin, 1983-1995

Table 24.—Average net annual growth and average annual removals of growing stock and sawtimber on timberland by ownership class and major species group, Wisconsin, 1983-1995

Table 25.—Average net annual growth and average annual removals of growing stock and sawtimber on timberland by forest type group/local type and major species group, Wisconsin, 1983-1995

Table 26.—All live aboveground tree biomass on timberland by ownership class, major species group, and tree biomass component, Wisconsin, 1996

Table 27.—Area of land by land class, forest type, and Forest Survey Unit, Wisconsin, 1983 and 1996

Table 28.—Area of timberland by Forest Survey Unit and county, Wisconsin, 1983 and 1996

Table 29.—Area of timberland by Forest Survey Unit and stand-size class, Wisconsin, 1983 and 1996

Table 30.—Area of timberland by forest type, stand-size class, ownership class, and Forest Survey Unit, Wisconsin, 1996

Table 31.—Area of timberland by forest type, stand-size class, and potential productivity class, Wisconsin, 1996

Table 32.—Area of timberland by forest type, basal-area class, and stand-size class, Wisconsin, 1996

Table 33.—Net volume of growing stock on timberland by species group and Forest Survey Unit, Wisconsin, 1983 and 1996

Table 34.—Net volume of sawtimber on timberland by species group and Forest Survey Unit, Wisconsin, 1983 and 1996

Table 35.—Net volume of all live trees greater than 5 inches in diameter at breast height on timberland by species group and diameter class, Wisconsin, 1996

Table 36.—Net volume of tree species on timberland by major tree class and individual species, Wisconsin, 1996

Table 37.—Net volume of noncommercial tree species on timberland by individual species, Wisconsin, 1996

Table 38.—Net volume of growing stock on timberland by species group and forest type, Wisconsin, 1996

Table 39.—Net volume of sawtimber on timberland by species group and forest type, Wisconsin, 1996

Table 40.—Net volume of short-log trees (cull volume) in cubic feet on timberland by species group and diameter class, Wisconsin, 1996

Table 41.—Net volume of short-log trees (cull volume) in board feet on timberland by species group and diameter class, Wisconsin, 1996

Table 42.—Current annual growth of growing stock and sawtimber on timberland, 1982 and 1995, and average net annual growth of growing stock and sawtimber, 1983-1995, by softwoods and hardwoods and Forest Survey Unit, Wisconsin

Table 43.—Average net annual growth of growing stock on timberland by species group and forest type, Wisconsin, 1983-1995

Table 44.—Average net annual growth of sawtimber on timberland by species group and forest type, Wisconsin, 1983-1995

Table 45.—Current net annual growth of growing stock on timberland by species group and forest type, Wisconsin, 1995

Table 46.—Current net annual growth of sawtimber on timberland by species group and forest type, Wisconsin, 1995

Table 47.—Current net annual growth, current annual mortality, and current annual removals of growing stock and sawtimber on timberland by species group, Wisconsin, 1995

Table 48.—Current annual removals for 1982 and 1995 and average annual removals for 1983-1995 from growing stock and sawtimber on timberland by softwoods and hardwoods, and Forest Survey Unit, Wisconsin

Table 49.—Current annual mortality for 1982 and 1995 and average annual mortality for 1983-1995 of growing stock and sawtimber on timberland by softwoods and hardwoods, and Forest Survey Unit, Wisconsin

Table 50.—Current annual timber removals of growing stock and sawtimber on timberland by species group, product, logging reside, and other removals, Wisconsin, 1995

Table 51.—Total volume of wood fiber used for each primary product by softwoods and hardwoods, and source of material, Wisconsin, 1995

Table 52.—Output of roundwood products by product, softwoods and hardwoods, and source of material, Wisconsin, 1995

Table 53.—Timber products from roundwood by species group and product, Wisconsin, 1995

Table 54.—All live tree biomass on timberland by species group and forest type, Wisconsin, 1996

Table 55.—All live tree biomass on timberland by species group and tree biomass component, Wisconsin, 1996

Table 56.—Sampling errors for Forest Survey Unit and county totals of area of timberland, volume, average net annual growth, and average annual removals on timberland, Wisconsin, 1996

Supplemental Tables for Wisconsin

Table 57.—Area of timberland by forest type, stand-age class, and Forest Survey Unit, Wisconsin, 1996

Table 58.—Area of timberland by forest type, site-index class, and Forest Survey Unit, Wisconsin, 1996

Table 59.—Area of timberland in plantations by forest type, stand-age class, and Forest Survey Unit, Wisconsin, 1996

Table 60.—Area of reserved forest land by ownership class and Forest Survey Unit, Wisconsin, 1996

Table 61.—Net volume of growing stock on timberland by species group and ownership class, Wisconsin, 1996

Table 62.—Net volume of sawtimber on timberland by species group and ownership class, Wisconsin, 1996

Table 63.—Net volume of growing stock on timberland by forest type, stand-age class, and Forest Survey Unit, Wisconsin, 1996

Table 64.—Net volume of sawtimber on timberland by forest type, stand-age class, and Forest Survey Unit, Wisconsin, 1996

Table 65.—Net volume of sawtimber on timberland by species group, grade, and Forest Survey Unit, Wisconsin, 1996

Table 66.—Average net annual growth of growing stock on timberland by species group and ownership class, Wisconsin, 1983-1995

Table 67.—Average net annual growth of sawtimber on timberland by species group and ownership class, Wisconsin, 1983-1995

Table 68.—Current net annual growth of growing stock on timberland by species group and ownership class, Wisconsin, 1995

Table 69.—Current net annual growth of sawtimber on timberland by species group and ownership class, Wisconsin, 1995

Table 70.—Average annual mortality of growing stock on timberland by species group and cause of death, Wisconsin, 1983-1995

Table 71.—Average annual mortality of sawtimber on timberland by species group and cause of death, Wisconsin, 1983-1995

Table 72.—All live tree biomass on timberland by species group and tree biomass component, Wisconsin, 1996.

Table 73.—All live shrub and tree seedling biomass yields on timberland by species group and forest type, Wisconsin, 1996

Table 74.—Area of forest land by habitat type group/habitat type and forest type, Wisconsin, 1996

Table 75.—Net growing-stock volume on timberland by habitat type group/habitat type and species group, Wisconsin, 1996

Table 1.--Area of land by Forest Survey Unit, county, and major land-use class, Wisconsin, 1996

(In thousand acres)

Forest Survey Unit and county	Total[1] land area	Forest land				Other[2] land
		Total forest	Timberland	Reserved forest land	Other forest land	
Northeastern Unit						
Florence	312.4	273.7	266.3	7.4	--	38.7
Forest	649.1	592.6	560.9	25.8	5.9	56.5
Langlade	558.6	409.4	409.4	--	--	149.2
Lincoln	565.2	399.8	396.6	2.8	0.4	165.4
Menominee	229.1	215.9	215.9	--	--	13.2
Marinette	897.3	660.4	653.6	6.8	--	236.9
Oconto	638.8	382.7	382.7	--	--	256.1
Oneida	719.8	575.0	567.8	1.4	5.8	144.8
Shawano	571.2	276.1	273.2	2.9	--	295.1
Vilas	558.6	466.1	459.1	7.0	--	92.5
Total	5,700.1	4,251.7	4,185.5	54.1	12.1	1,448.4
Northwestern Unit						
Ashland	668.1	538.9	509.9	29.0	--	129.2
Barron	552.3	153.8	153.8	--	--	398.5
Bayfield	944.9	795.2	771.8	12.0	11.4	149.7
Burnett	525.8	320.8	308.3	12.5	--	205.0
Douglas	837.9	649.5	639.8	3.4	6.3	188.4
Iron	484.6	441.3	441.3	--	--	43.3
Polk	587.1	257.5	244.3	7.2	6.0	329.6
Price	801.7	600.8	595.4	--	5.4	200.9
Rusk	584.4	385.6	378.8	6.8	--	198.8
Sawyer	804.2	667.5	641.7	14.4	11.4	136.7
Taylor	623.9	371.7	368.1	3.6	--	252.2
Washburn	518.2	368.2	360.9	3.6	3.7	150.0
Total	7,933.1	5,550.8	5,414.1	92.5	44.2	2,382.3
Central Unit						
Adams	414.6	253.5	253.1	0.4	--	161.1
Chippewa	646.7	232.4	229.4	3.0	--	414.3
Clark	778.0	321.0	321.0	--	--	457.0
Eau Clair	408.1	162.4	162.4	--	--	245.7
Jackson	631.9	367.5	363.1	4.4	--	264.4
Juneau	491.3	271.7	271.7	--	--	219.6
Marathon	988.9	376.1	373.9	2.2	--	612.8
Marquette	291.6	98.3	95.8	2.5	--	193.3
Monroe	576.6	273.4	273.4	--	--	303.2
Portage	516.1	173.8	173.8	--	--	342.3
Waupaca	480.7	186.5	181.4	3.8	1.3	294.2
Waushara	400.7	135.9	127.7	8.2	--	264.8
Wood	507.4	215.4	215.4	--	--	292.0
Total	7,132.6	3,067.9	3,042.1	24.5	1.3	4,064.7

(Table 1 continued on next page)

(Table 1 continued)

Forest Survey Unit and county	Total[1] land area	Forest land				Other[2] land
		Total forest	Timberland	Reserved forest land	Other forest land	
Southwestern Unit						
Buffalo	438.1	189.4	185.3	4.1	--	248.7
Crawford	366.5	184.4	179.4	5.0	--	182.1
Dunn	545.3	190.8	182.2	8.6	--	354.5
Grant	734.7	195.7	193.9	1.8	--	539.0
Iowa	488.1	139.5	137.5	2.0	--	348.6
La Crosse	289.8	136.5	136.5	--	--	153.3
Lafayette	405.6	38.7	38.7	--	--	366.9
Pepin	148.7	61.1	57.8	0.2	3.1	87.6
Pierce	368.9	98.1	96.1	2.0	--	270.8
Richland	375.2	167.0	167.0	--	--	208.2
St. Croix	462.0	78.9	76.8	2.1	--	383.1
Sauk	536.1	204.6	182.3	22.3	--	331.5
Trempealeau	469.8	173.4	170.6	2.8	--	296.4
Vernon	508.8	225.5	223.0	2.5	--	283.3
Total	6,137.6	2,083.6	2,027.1	53.4	3.1	4,054.0
Southeastern Unit						
Brown	338.4	47.2	46.2	1.0	--	291.2
Calumet	204.7	17.7	17.7	--	--	187.0
Columbia	495.3	98.0	98.0	--	--	397.3
Dane	769.4	81.8	79.2	2.6	--	687.6
Dodge	564.7	39.8	39.8	--	--	524.9
Door	309.0	113.9	105.3	8.6	--	195.1
Fond du Lac	462.7	33.3	33.3	--	--	429.4
Green	373.8	40.4	40.4	--	--	333.4
Green Lake	226.8	30.2	30.2	--	--	196.6
Jefferson	356.5	47.3	47.3	--	--	309.2
Kenosha	174.6	23.9	23.9	--	--	150.7
Kewaunee	219.4	45.2	45.2	--	--	174.2
Manitowoc	378.6	67.7	67.0	0.7	--	310.9
Milwaukee	154.6	8.1	8.1	--	--	146.5
Outagamie	409.9	67.2	67.2	--	--	342.7
Ozaukee	148.4	21.8	18.8	3.0	--	126.6
Racine	213.2	18.8	18.8	--	--	194.4
Rock	461.1	35.5	35.5	--	--	425.6
Sheboygan	328.8	62.2	62.2	--	--	266.6
Walworth	355.5	39.1	39.1	--	--	316.4
Washington	275.8	51.8	51.8	--	--	224.0
Waukesha	355.6	40.2	38.6	1.6	--	315.4
Winnebago	280.7	20.1	20.1	--	--	260.6
Total	7,857.5	1,051.2	1,033.7	17.5	--	6,806.3
All counties	34,760.9	16,005.2	15,702.5	242.0	60.7	18,755.7

1 From U.S. Bureau of the Census, 1990.

2 Includes 223.6 thousand acres of water according to FIA standards of area classification, but defined by the Bureau of the Census as land.

Table 2.--Area of timberland by Forest Survey Unit, county, and ownership class, Wisconsin, 1996

(In thousand acres)

Forest Survey Unit and county	All ownerships	National forest	Other federal	State	County and municipal	Indian	Forest industry	Individual	Corporate
Northeastern Unit									
Florence	266.3	71.6	--	--	32.2	--	35.7	40.9	85.9
Forest	560.9	305.1	--	10.0	--	5.3	123.2	--	117.3
Langlade	409.4	29.1	--	20.5	130.4	--	42.2	7.6	179.6
Lincoln	396.6	--	--	3.5	87.9	--	59.7	5.5	240.0
Menominee	215.9	--	--	--	--	214.6	--	1.3	--
Marinette	653.6	--	--	3.3	272.4	--	27.0	37.7	313.2
Oconto	382.7	135.1	--	--	30.0	--	--	16.2	201.4
Oneida	567.8	10.9	--	58.5	74.2	--	207.6	21.3	195.3
Shawano	273.2	--	--	7.1	--	6.5	6.6	10.7	242.3
Vilas	459.1	45.7	--	126.6	38.0	34.7	6.9	27.7	179.5
Total	4,185.5	597.5	--	229.5	665.1	261.1	508.9	168.9	1,754.5
Northwestern Unit									
Ashland	509.9	168.5	--	13.1	51.5	29.4	22.4	40.7	184.3
Barron	153.8	--	--	4.1	11.9	--	--	4.3	133.5
Bayfield	771.8	249.3	3.0	16.8	161.0	--	63.6	25.4	252.7
Burnett	308.3	--	1.5	32.5	78.9	1.9	1.8	--	191.7
Douglas	639.8	--	--	38.0	221.6	--	89.2	37.4	253.6
Iron	441.3	--	--	41.7	175.7	9.1	76.1	28.3	110.4
Polk	244.3	--	--	7.0	34.6	--	--	14.4	188.3
Price	595.4	128.3	--	21.0	73.2	--	61.0	26.7	285.2
Rusk	378.8	--	--	3.1	92.3	--	45.6	25.1	212.7
Sawyer	641.7	109.4	13.3	39.4	108.0	39.8	88.5	25.0	218.3
Taylor	368.1	110.5	--	3.6	16.0	--	11.6	3.6	222.8
Washburn	360.9	--	--	6.6	132.8	--	17.8	10.8	192.9
Total	5,414.1	766.0	17.8	226.9	1,157.5	80.2	477.6	241.7	2,446.4
Central Unit									
Adams	253.1	--	4.9	5.2	3.1	--	32.5	26.4	181.0
Chippewa	229.4	--	--	3.2	26.6	--	--	--	199.6
Clark	321.0	--	--	--	128.5	--	15.7	0.6	176.2
Eau Clair	162.4	--	--	--	53.6	--	--	--	108.8
Jackson	363.1	--	--	49.1	95.0	--	6.8	28.8	183.4
Juneau	271.7	--	38.4	7.3	22.7	--	2.9	15.9	184.5
Marathon	373.9	--	--	12.7	35.9	--	20.8	14.3	290.2
Marquette	95.8	--	--	3.9	--	--	--	0.5	91.4
Monroe	273.4	--	58.3	--	9.5	--	--	10.5	195.1
Portage	173.8	--	--	11.6	2.4	--	9.9	4.8	145.1
Waupaca	181.4	--	--	8.2	--	--	7.4	6.6	159.2
Waushara	127.7	--	--	9.7	1.9	--	--	5.5	110.6
Wood	215.4	--	1.4	6.7	47.4	--	5.3	26.6	128.0
Total	3,042.1	--	103.0	117.6	426.6	--	101.3	140.5	2,153.1

(Table 2 continued on next page)

(Table 2 continued)

Forest Survey Unit and county	All ownerships	National forest	Other federal	State	County and municipal	Indian	Forest industry	Individual	Corporate
Southwestern Unit									
Buffalo	185.3	--	0.2	5.8	--	--	--	7.3	172.0
Crawford	179.4	--	7.8	--	3.8	--	--	--	167.8
Dunn	182.2	--	--	14.2	--	--	--	--	168.0
Grant	193.9	--	2.4	9.3	2.5	--	--	--	179.7
Iowa	137.5	--	0.3	2.9	--	--	--	8.9	125.4
La Crosse	136.5	--	5.2	11.1	2.6	--	--	2.6	115.0
Lafayette	38.7	--	--	5.7	--	--	--	1.7	31.3
Pepin	57.8	--	--	4.7	--	--	3.1	--	50.0
Pierce	96.1	--	--	--	--	--	--	5.3	90.8
Richland	167.0	--	--	6.6	--	--	--	--	160.4
St. Croix	76.8	--	--	10.4	--	--	--	7.0	59.4
Sauk	182.3	--	2.4	15.4	2.4	--	--	14.2	147.9
Trempealeau	170.6	--	--	1.6	--	--	--	8.2	160.8
Vernon	223.0	--	14.7	6.9	--	--	--	6.8	194.6
Total	2,027.1	--	33.0	94.6	11.3	--	3.1	62.0	1,823.1
Southeastern Unit									
Brown	46.2	--	--	--	4.2	2.2	--	2.1	37.7
Calumet	17.7	--	--	0.8	--	--	2.4	--	14.5
Columbia	98.0	--	--	7.0	--	--	--	9.2	81.8
Dane	79.2	--	--	2.7	--	--	--	4.7	71.8
Dodge	39.8	--	--	--	--	--	--	5.6	34.2
Door	105.3	--	--	3.6	--	--	--	12.5	89.2
Fond du Lac	33.3	--	--	5.5	2.5	--	3.1	7.1	15.1
Green	40.4	--	--	0.4	3.4	--	--	--	36.6
Green Lake	30.2	--	--	0.3	--	--	--	1.4	28.5
Jefferson	47.3	--	--	6.9	--	--	--	--	40.4
Kenosha	23.9	--	--	--	1.8	--	--	7.7	14.4
Kewaunee	45.2	--	3.4	--	--	--	5.8	3.1	32.9
Manitowoc	67.0	--	--	4.4	--	--	--	--	62.6
Milwaukee	8.1	--	--	--	4.0	--	--	4.1	--
Outagamie	67.2	--	--	3.4	1.5	--	--	7.4	54.9
Ozaukee	18.8	--	--	--	--	--	--	2.5	16.3
Racine	18.8	--	--	4.0	--	--	--	--	14.8
Rock	35.5	--	--	--	1.0	--	--	2.3	32.2
Sheboygan	62.2	--	--	16.9	3.4	--	--	--	41.9
Walworth	39.1	--	--	7.5	--	--	--	5.6	26.0
Washington	51.8	--	--	2.6	--	--	--	--	49.2
Waukesha	38.6	--	--	9.5	--	--	--	3.3	25.8
Winnebago	20.1	--	--	--	--	--	--	--	20.1
Total	1,033.7	--	3.4	75.5	21.8	2.2	11.3	78.6	840.9
All counties	15,702.5	1,363.5	157.2	744.1	2,282.3	343.5	1,102.2	691.7	9,018.0

Table 3.--Area of timberland by Forest Survey Unit, county, and forest type group/local type, Wisconsin, 1996

(In thousand acres)

Forest Survey Unit and county	All types	Forest type group/local type																	
		White-red-jack pine				Spruce-fir						Oak-hickory	Elm-ash-cottonwood	Maple-beech-birch	Aspen-birch				Non-stocked
		Total	Jack pine	Red pine	White pine	Total	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-basswood	Total	Aspen	Paper birch	Balsam poplar	Non-stocked
Northeastern Unit																			
Florence	266.3	13.5	--	10.0	3.5	37.9	4.2	5.6	20.5	4.6	3.0	3.3	2.3	111.3	98.0	92.7	5.1	0.2	--
Forest	560.9	12.8	--	11.7	1.1	100.4	29.6	9.8	27.1	26.5	7.4	--	22.3	311.7	111.4	97.2	14.2	--	2.3
Langlade	409.4	3.5	1.0	2.5	--	74.1	32.5	--	15.3	15.8	10.5	3.3	31.8	205.9	88.2	75.7	12.5	--	2.6
Lincoln	396.6	31.1	10.6	16.4	4.1	59.0	15.2	3.4	26.5	3.5	10.4	3.6	20.8	148.9	132.8	123.4	9.4	--	0.4
Menominee	215.9	11.3	0.1	3.1	8.1	16.5	0.8	--	5.8	9.9	--	20.5	8.8	138.4	20.4	16.7	3.7	--	--
Marinette	653.6	49.6	17.6	24.5	7.5	72.4	12.3	--	6.2	44.9	9.0	59.4	44.3	184.5	240.4	213.9	22.0	4.5	3.0
Oconto	382.7	33.2	1.7	19.8	11.7	45.9	3.3	--	5.8	34.6	2.2	25.6	50.5	126.0	101.5	79.0	20.0	2.5	--
Oneida	567.8	81.6	21.5	47.3	12.8	131.1	32.3	3.4	51.8	14.6	29.0	22.3	25.6	110.8	196.4	155.5	40.9	--	--
Shawano	273.2	10.6	2.4	7.7	0.5	37.2	--	--	3.2	27.8	6.2	20.6	29.3	137.6	37.9	23.6	14.3	--	--
Vilas	459.1	73.6	28.0	28.2	17.4	78.7	28.1	9.4	18.5	4.7	18.0	8.1	7.4	132.4	158.9	127.0	31.9	--	--
Total	4,185.5	320.8	82.9	171.2	66.7	653.2	158.3	31.6	180.7	186.9	95.7	166.7	243.1	1,607.5	1,185.9	1,004.7	174.0	7.2	8.3
Northwestern Unit																			
Ashland	509.9	3.0	--	3.0	--	105.4	33.6	9.7	17.8	25.5	18.8	--	33.7	224.7	143.1	127.7	12.6	2.8	--
Barron	153.8	3.7	--	--	3.7	7.7	--	--	--	--	7.7	46.6	22.5	34.3	39.0	37.0	2.0	--	--
Bayfield	771.8	93.5	28.2	60.7	4.6	47.5	17.0	6.6	13.7	6.4	3.8	61.1	43.8	199.8	326.1	284.8	39.1	2.2	--
Burnett	308.3	34.2	24.3	9.9	--	20.3	--	--	7.9	--	12.4	121.9	20.4	47.7	63.8	62.0	1.8	--	--
Douglas	639.8	94.0	34.9	59.1	--	70.1	23.4	8.3	23.1	--	15.3	65.4	41.6	117.0	247.7	189.1	45.3	13.3	4.0
Iron	441.3	6.8	--	6.8	--	71.3	19.0	--	10.2	33.6	8.5	3.5	49.3	244.7	65.7	56.5	9.2	--	--
Polk	244.3	20.1	18.9	1.2	--	2.9	--	--	--	--	2.9	70.9	5.6	79.7	65.1	53.2	11.9	--	--
Price	595.4	11.5	2.5	9.0	--	104.5	20.7	5.3	24.0	24.7	29.8	--	101.5	213.0	164.9	156.0	8.9	--	--
Rusk	378.8	9.2	--	8.6	0.6	19.7	3.4	2.7	11.1	--	2.5	37.5	23.2	178.3	105.0	95.0	9.7	0.3	5.9
Sawyer	641.7	28.3	4.0	12.8	11.5	65.6	11.8	7.7	25.4	3.3	17.4	38.6	39.3	296.4	169.1	148.9	20.2	--	4.4
Taylor	368.1	1.1	--	1.1	--	30.0	9.7	1.1	3.4	--	15.8	2.7	55.1	193.1	80.0	70.0	10.0	--	6.1
Washburn	360.9	45.6	20.8	20.2	4.6	14.2	--	--	--	2.8	11.4	66.0	29.1	82.1	122.8	104.8	15.2	2.8	1.1
Total	5,414.1	351.0	133.6	192.4	25.0	559.2	138.6	41.4	136.6	96.3	146.3	514.2	465.1	1,910.8	1,592.3	1,385.0	185.9	21.4	21.5
Central Unit																			
Adams	253.1	78.3	39.1	35.3	3.9	--	--	--	--	--	--	137.9	14.6	3.0	19.3	19.3	--	--	--
Chippewa	229.4	13.0	5.6	6.6	0.8	1.5	--	--	--	--	1.5	30.5	28.0	119.6	36.8	30.5	6.3	--	--
Clark	321.0	17.6	3.0	2.8	11.8	4.0	--	--	3.4	--	0.6	70.0	44.1	96.8	84.9	76.4	8.5	--	3.6
Eau Clair	162.4	20.6	5.1	15.5	--	--	--	--	--	--	--	89.2	12.1	28.0	12.5	12.5	--	--	--
Jackson	363.1	76.9	42.6	20.4	13.9	19.6	--	--	--	--	19.6	139.2	26.8	39.1	61.5	50.2	11.3	--	--
Juneau	271.7	44.2	29.8	11.8	2.6	--	--	--	--	--	--	134.3	22.4	44.3	24.4	17.7	6.7	--	2.1
Marathon	373.9	11.9	2.4	9.5	--	19.1	7.2	1.7	2.4	3.2	4.6	20.3	42.2	214.1	60.5	52.7	7.8	--	5.8
Marquette	95.8	10.8	5.0	4.2	1.6	2.6	--	--	--	--	2.6	57.9	4.8	11.0	8.7	4.8	3.9	--	--
Monroe	273.4	35.8	21.1	5.3	9.4	--	--	--	--	--	--	144.7	19.9	51.5	20.4	12.9	7.5	--	1.1
Portage	173.8	33.3	0.9	26.5	5.9	3.3	--	--	3.3	--	--	43.5	38.6	36.3	18.8	18.7	0.1	--	--
Waupaca	181.4	19.6	0.2	10.4	9.0	11.8	3.5	--	--	2.1	6.2	28.4	52.6	61.3	6.3	6.3	--	--	1.4
Waushara	127.7	29.4	6.6	20.8	2.0	3.9	--	--	--	--	3.9	47.3	18.3	18.2	10.6	6.2	4.4	--	--
Wood	215.4	20.4	6.6	7.3	6.5	13.0	--	3.0	4.0	--	6.0	38.7	19.6	49.8	72.9	63.9	9.0	--	1.0
Total	3,042.1	411.8	168.0	176.4	67.4	78.8	10.7	4.7	13.1	5.3	45.0	981.9	344.0	773.0	437.6	372.1	65.5	--	15.0

(Table 3 continued on next page)

(Table 3 continued)

Forest Survey Unit and county	All types	Forest type group/local type																	
		White-red-jack pine				Spruce-fir						Oak-hickory	Elm-ash-cottonwood	Maple-beech-birch	Aspen-birch				Non-stocked
		Total	Jack pine	Red pine	White pine	Total	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-basswood	Total	Aspen	Paper birch	Balsam poplar	Non-stocked
Southwestern Unit																			
Buffalo	185.3	--	--	--	--	--	--	--	--	--	--	120.9	13.7	24.6	26.1	19.1	6.5	0.5	--
Crawford	179.4	--	--	--	--	--	--	--	--	--	--	108.3	18.2	47.9	5.0	4.3	0.7	--	--
Dunn	182.2	13.5	--	9.9	3.6	--	--	--	--	--	--	50.8	30.0	69.8	18.1	17.3	0.8	--	--
Grant	193.9	--	--	--	--	--	--	--	--	--	--	87.3	27.2	77.1	2.3	0.7	1.6	--	--
Iowa	137.5	5.4	--	5.4	--	--	--	--	--	--	--	87.0	9.8	25.6	8.5	5.9	2.6	--	1.2
La Crosse	136.5	10.3	--	10.2	0.1	--	--	--	--	--	--	66.4	24.1	25.0	10.7	7.5	3.2	--	--
Lafayette	38.7	--	--	--	--	--	--	--	--	--	--	25.2	2.5	11.0	--	--	--	--	--
Pepin	57.8	1.3	--	1.3	--	--	--	--	--	--	--	21.9	7.2	24.9	2.5	0.6	1.9	--	--
Pierce	96.1	2.4	0.1	0.6	1.7	--	--	--	--	--	--	10.0	21.7	53.5	8.5	8.5	--	--	--
Richland	167.0	--	--	--	--	--	--	--	--	--	--	67.0	6.9	83.1	10.0	--	10.0	--	--
St. Croix	76.8	4.5	--	1.0	3.5	1.5	--	1.5	--	--	--	29.7	11.2	25.7	4.2	4.2	--	--	--
Sauk	182.3	8.6	2.4	6.2	--	--	--	--	--	--	--	103.7	8.2	58.0	2.9	2.9	--	--	0.9
Trempealeau	170.6	6.2	--	3.6	2.6	1.7	--	1.7	--	--	--	90.0	20.9	32.6	17.1	4.9	12.2	--	2.1
Vernon	223.0	8.4	--	--	8.4	--	--	--	--	--	--	97.6	21.1	81.2	13.1	9.7	3.4	--	1.6
Total	2,027.1	60.6	2.5	38.2	19.9	3.2	--	3.2	--	--	--	965.8	222.7	640.0	129.0	85.6	42.9	0.5	5.8
Southeastern Unit																			
Brown	46.2	--	--	--	--	0.7	--	--	--	0.7	--	4.3	17.8	18.4	5.0	2.8	2.2	--	--
Calumet	17.7	--	--	--	--	--	--	--	--	--	--	1.6	6.7	8.6	0.8	0.8	--	--	--
Columbia	98.0	13.4	--	13.4	--	--	--	--	--	--	--	66.3	4.0	9.8	4.5	4.5	--	--	--
Dane	79.2	0.1	--	0.1	--	--	--	--	--	--	--	44.0	0.1	28.2	6.8	0.9	5.9	--	--
Dodge	39.8	1.1	--	0.5	0.6	--	--	--	--	--	--	4.1	17.8	14.1	2.7	2.7	--	--	--
Door	105.3	3.6	--	--	3.6	18.3	1.8	--	--	15.2	1.3	--	22.6	47.1	13.7	8.5	5.2	--	--
Fond du Lac	33.3	1.3	--	1.3	--	0.6	--	--	--	--	0.6	5.3	12.0	14.1	--	--	--	--	--
Green	40.4	0.4	0.4	--	--	--	--	--	--	--	--	14.2	7.2	18.6	--	--	--	--	--
Green Lake	30.2	1.5	--	--	1.5	5.0	--	--	--	--	5.0	14.6	4.5	4.6	--	--	--	--	--
Jefferson	47.3	--	--	--	--	2.3	--	--	--	--	2.3	6.5	20.3	18.2	--	--	--	--	--
Kenosha	23.9	--	--	--	--	--	--	--	--	--	--	20.8	3.1	--	--	--	--	--	--
Kewaunee	45.2	--	--	--	--	5.7	--	--	--	5.7	--	--	15.3	16.6	2.4	--	2.4	--	5.2
Manitowoc	67.0	5.5	--	5.5	--	4.0	--	--	--	4.0	--	1.9	18.6	30.6	5.8	5.8	--	--	0.6
Milwaukee	8.1	--	--	--	--	--	--	--	--	--	--	--	--	8.1	--	--	--	--	--
Outagamie	67.2	1.5	--	--	1.5	2.9	--	--	--	2.9	--	6.4	32.8	13.6	10.0	0.3	9.7	--	--
Ozaukee	18.8	--	--	--	--	2.5	--	--	--	--	2.5	--	2.7	13.6	--	--	--	--	--
Racine	18.8	--	--	--	--	--	--	--	--	--	--	7.7	8.8	2.3	--	--	--	--	--
Rock	35.5	1.6	--	--	1.6	--	--	--	--	--	--	16.8	3.3	13.8	--	--	--	--	--
Sheboygan	62.2	3.9	--	0.2	3.7	4.1	--	--	--	2.3	1.8	12.2	14.1	27.9	--	--	--	--	--
Walworth	39.1	2.9	--	2.9	--	--	--	--	--	--	--	19.5	1.2	11.0	4.5	4.5	--	--	--
Washington	51.8	0.7	--	0.7	--	1.4	--	--	--	--	1.4	--	19.3	22.9	7.5	7.5	--	--	--
Waukesha	38.6	--	--	--	--	--	--	--	--	--	--	10.7	16.5	11.4	--	--	--	--	--
Winnebago	20.1	--	--	--	--	--	--	--	--	--	--	--	5.2	14.9	--	--	--	--	--
Total	1,033.7	37.5	0.4	24.6	12.5	47.5	1.8	--	--	30.8	14.9	256.9	253.9	368.4	63.7	38.3	25.4	--	5.8
All counties	15,702.5	1,181.7	387.4	602.8	191.5 #	1,341.9	309.4	80.9	330.4	319.3	301.9	2,885.5	1,528.8	5,299.7	3,408.5	2,885.7	493.7	29.1	56.4

Table 4.--Area of timberland by Forest Survey Unit, county, and stand-size class, Wisconsin, 1996

(In thousand acres)

Forest Survey Unit and county	All stands	Stand-size class			
		Sawtimber	Poletimber	Sapling-seedling	Nonstocked
Northeastern Unit					
Florence	266.3	91.7	91.8	82.8	- -
Forest	560.9	155.9	242.9	159.8	2.3
Langlade	409.4	106.6	190.1	110.1	2.6
Lincoln	396.6	52.6	188.5	155.1	0.4
Menominee	215.9	139.0	47.2	29.7	- -
Marinette	653.6	103.1	290.9	256.6	3.0
Oconto	382.7	61.2	199.0	122.5	- -
Oneida	567.8	109.6	188.1	270.1	- -
Shawano	273.2	81.6	152.4	39.2	- -
Vilas	459.1	127.0	195.8	136.3	- -
Total	4,185.5	1,028.3	1,786.7	1,362.2	8.3
Northwestern Unit					
Ashland	509.9	131.8	242.1	136.0	- -
Barron	153.8	50.4	35.9	67.5	- -
Bayfield	771.8	158.2	354.6	259.0	- -
Burnett	308.3	93.4	121.4	93.5	- -
Douglas	639.8	92.6	263.3	279.9	4.0
Iron	441.3	90.9	233.0	117.4	- -
Polk	244.3	68.4	92.7	83.2	- -
Price	595.4	99.1	259.7	236.6	- -
Rusk	378.8	107.7	133.5	131.7	5.9
Sawyer	641.7	163.3	286.7	187.3	4.4
Taylor	368.1	68.5	178.1	115.4	6.1
Washburn	360.9	58.2	203.3	98.3	1.1
Total	5,414.1	1,182.5	2,404.3	1,805.8	21.5
Central Unit					
Adams	253.1	87.6	87.1	78.4	- -
Chippewa	229.4	40.4	118.4	70.6	- -
Clark	321.0	74.8	133.5	109.1	3.6
Eau Clair	162.4	32.2	80.2	50.0	- -
Jackson	363.1	76.6	126.8	159.7	- -
Juneau	271.7	85.3	102.3	82.0	2.1
Marathon	373.9	97.8	162.1	108.2	5.8
Marquette	95.8	49.3	24.5	22.0	- -
Monroe	273.4	110.5	101.3	60.5	1.1
Portage	173.8	42.9	77.2	53.7	- -
Waupaca	181.4	89.3	54.3	36.4	1.4
Waushara	127.7	46.5	49.4	31.8	- -
Wood	215.4	44.8	84.1	85.5	1.0
Total	3,042.1	878.0	1,201.2	947.9	15.0

(Table 4 continued on next page)

(Table 4 continued)

Forest Survey Unit and county	All stands	Stand-size class			
		Sawtimber	Poletimber	Sapling-seedling	Nonstocked
Southwestern Unit					
Buffalo	185.3	98.2	73.4	13.7	--
Crawford	179.4	83.1	57.3	39.0	--
Dunn	182.2	60.1	63.1	59.0	--
Grant	193.9	79.6	80.2	34.1	--
Iowa	137.5	74.2	36.4	25.7	1.2
La Crosse	136.5	61.7	47.7	27.1	--
Lafayette	38.7	23.3	15.4	--	--
Pepin	57.8	35.1	10.6	12.1	--
Pierce	96.1	43.4	30.1	22.6	--
Richland	167.0	81.5	53.0	32.5	--
St. Croix	76.8	39.6	16.2	21.0	--
Sauk	182.3	112.6	48.1	20.7	0.9
Trempealeau	170.6	65.6	55.0	47.9	2.1
Vernon	223.0	114.2	61.8	45.4	1.6
Total	2,027.1	972.2	648.3	400.8	5.8
Southeastern Unit					
Brown	46.2	15.7	11.2	19.3	--
Calumet	17.7	12.8	1.6	3.3	--
Columbia	98.0	35.6	35.4	27.0	--
Dane	79.2	47.6	19.5	12.1	--
Dodge	39.8	9.9	17.6	12.3	--
Door	105.3	31.0	38.4	35.9	--
Fond du Lac	33.3	9.7	13.8	9.8	--
Green	40.4	22.3	12.0	6.1	--
Green Lake	30.2	13.7	2.9	13.6	--
Jefferson	47.3	21.4	6.1	19.8	--
Kenosha	23.9	8.9	1.4	13.6	--
Kewaunee	45.2	21.4	18.0	0.6	5.2
Manitowoc	67.0	19.3	31.2	15.9	0.6
Milwaukee	8.1	--	8.1	--	--
Outagamie	67.2	21.1	19.0	27.1	--
Ozaukee	18.8	4.1	6.8	7.9	--
Racine	18.8	12.5	--	6.3	--
Rock	35.5	23.3	6.2	6.0	--
Sheboygan	62.2	15.0	26.4	20.8	--
Walworth	39.1	24.7	1.4	13.0	--
Washington	51.8	20.5	14.9	16.4	--
Waukesha	38.6	13.3	9.2	16.1	--
Winnebago	20.1	4.3	14.4	1.4	--
Total	1,033.7	408.1	315.5	304.3	5.8
All counties	15,702.5	4,469.1	6,356.0	4,821.0	56.4

Table 5.--Area of timberland by Forest Survey Unit, county, and potential productivity class, Wisconsin, 1996

(In thousand acres)

Forest Survey Unit and county	All classes	Potential productivity class (cubic feet of growth per acre per year)					
		225+	165-224	120-164	85-119	50-84	20-49
Northeastern Unit							
Florence	266.3	--	3.5	23.7	79.7	115.9	43.5
Forest	560.9	--	5.0	16.6	155.3	222.3	161.7
Langlade	409.4	--	3.3	4.4	107.1	191.8	102.8
Lincoln	396.6	0.9	5.8	20.4	91.9	166.9	110.7
Menominee	215.9	--	3.7	7.0	60.3	106.3	38.6
Marinette	653.6	--	2.7	30.8	161.4	286.5	172.2
Oconto	382.7	--	3.2	26.6	107.9	172.5	72.5
Oneida	567.8	--	--	31.4	156.6	200.9	178.9
Shawano	273.2	--	6.6	12.0	87.4	109.8	57.4
Vilas	459.1	--	5.2	25.1	107.7	201.2	119.9
Total	4,185.5	0.9	39.0	198.0	1,115.3	1,774.1	1,058.2
Northwestern Unit							
Ashland	509.9	--	1.6	19.0	87.5	238.5	163.3
Barron	153.8	--	--	18.3	29.7	82.4	23.4
Bayfield	771.8	0.2	2.2	48.8	219.6	358.9	142.1
Burnett	308.3	--	--	--	52.1	146.2	110.0
Douglas	639.8	3.0	1.3	26.5	135.0	297.1	176.9
Iron	441.3	--	--	10.5	59.7	176.8	194.3
Polk	244.3	--	2.8	8.2	69.4	111.9	52.0
Price	595.4	--	6.7	37.0	128.6	253.9	169.2
Rusk	378.8	--	7.0	8.2	100.3	200.6	62.7
Sawyer	641.7	--	4.0	26.7	182.7	291.5	136.8
Taylor	368.1	--	0.7	10.6	92.6	162.0	102.2
Washburn	360.9	--	--	9.3	121.2	150.1	80.3
Total	5,414.1	3.2	26.3	223.1	1,278.4	2,469.9	1,413.2
Central Unit							
Adams	253.1	--	--	12.8	54.8	129.8	55.7
Chippewa	229.4	--	5.6	6.6	51.2	120.2	45.8
Clark	321.0	--	3.8	17.3	69.1	158.1	72.7
Eau Clair	162.4	--	--	17.1	22.2	87.5	35.6
Jackson	363.1	--	2.1	4.3	94.9	137.5	124.3
Juneau	271.7	--	6.0	12.9	78.1	139.0	35.7
Marathon	373.9	--	1.1	25.3	105.7	154.7	87.1
Marquette	95.8	--	--	1.6	26.1	55.9	12.2
Monroe	273.4	--	13.5	1.0	72.9	111.2	74.8
Portage	173.8	1.8	7.0	27.3	32.9	65.0	39.8
Waupaca	181.4	2.3	1.9	16.4	41.5	79.4	39.9
Waushara	127.7	1.9	--	19.9	18.1	62.3	25.5
Wood	215.4	--	1.5	12.4	50.5	98.1	52.9
Total	3,042.1	6.0	42.5	174.9	718.0	1,398.7	702.0

(Table 5 continued on next page)

(Table 5 continued)

Forest Survey Unit and county	All classes	Potential productivity class (cubic feet of growth per acre per year) 225+	165-224	120-164	85-119	50-84	20-49
Southwestern Unit							
Buffalo	185.3	--	11.5	11.5	58.0	69.9	34.4
Crawford	179.4	--	--	9.5	40.3	100.7	28.9
Dunn	182.2	--	1.1	17.7	66.4	75.3	21.7
Grant	193.9	--	6.4	16.7	53.1	86.6	31.1
Iowa	137.5	--	8.7	5.8	40.9	71.8	10.3
La Crosse	136.5	--	7.8	18.2	48.5	47.7	14.3
Lafayette	38.7	--	2.1	--	13.1	22.9	0.6
Pepin	57.8	--	0.6	--	14.9	35.0	7.3
Pierce	96.1	--	6.8	2.8	32.6	32.4	21.5
Richland	167.0	--	8.2	2.4	63.9	88.8	3.7
St. Croix	76.8	--	5.7	4.5	25.0	35.5	6.1
Sauk	182.3	--	9.0	15.7	84.3	57.7	15.6
Trempealeau	170.6	--	16.3	13.0	53.0	65.4	22.9
Vernon	223.0	--	--	10.4	63.7	101.9	47.0
Total	2,027.1	--	84.2	128.2	657.7	891.6	265.4
Southeastern Unit							
Brown	46.2	--	4.1	0.7	14.7	13.3	13.4
Calumet	17.7	--	--	--	4.3	11.4	2.0
Columbia	98.0	7.3	3.0	9.2	25.7	44.5	8.3
Dane	79.2	--	4.9	9.6	19.1	37.0	8.6
Dodge	39.8	--	2.6	3.0	10.0	21.7	2.5
Door	105.3	1.8	--	1.4	23.4	61.8	16.9
Fond du Lac	33.3	--	--	1.3	11.5	12.6	7.9
Green	40.4	--	--	--	2.8	32.4	5.2
Green Lake	30.2	--	--	4.5	5.0	7.9	12.8
Jefferson	47.3	--	--	--	11.7	16.1	19.5
Kenosha	23.9	--	--	--	6.4	13.1	4.4
Kewaunee	45.2	--	0.6	--	13.4	24.9	6.3
Manitowoc	67.0	--	9.8	--	19.4	33.5	4.3
Milwaukee	8.1	--	--	--	4.0	4.1	--
Outagamie	67.2	--	--	5.7	9.3	25.9	26.3
Ozaukee	18.8	--	--	--	4.1	12.2	2.5
Racine	18.8	--	--	--	1.8	12.2	4.8
Rock	35.5	--	--	3.9	17.1	12.9	1.6
Sheboygan	62.2	3.4	--	--	10.1	25.5	23.2
Walworth	39.1	--	--	4.6	9.1	16.6	8.8
Washington	51.8	--	--	0.8	13.3	14.3	23.4
Waukesha	38.6	--	--	5.7	3.7	24.1	5.1
Winnebago	20.1	--	--	--	13.7	1.4	5.0
Total	1,033.7	12.5	25.0	50.4	253.6	479.4	212.8
All counties	15,702.5	22.6	217.0	774.6	4,023.0	7,013.7	3,651.6

Table 6.--Area of timberland by Forest Survey Unit, county, and stocking class of growing-stock trees[1], Wisconsin, 1996

(In thousand acres)

Forest Survey Unit and county	All classes	Stocking class of growing-stock trees				
		Nonstocked[2]	Poorly stocked	Moderately stocked	Fully stocked	Over-stocked
Northeastern Unit						
Florence	266.3	--	14.2	45.3	170.0	36.8
Forest	560.9	2.7	28.4	111.0	371.8	47.0
Langlade	409.4	2.6	54.8	91.5	220.5	40.0
Lincoln	396.6	0.4	57.2	110.8	204.7	23.5
Menominee	215.9	--	6.3	19.9	167.1	22.6
Marinette	653.6	3.6	53.7	111.3	413.6	71.4
Oconto	382.7	--	27.2	86.5	242.4	26.6
Oneida	567.8	--	36.9	161.6	300.1	69.2
Shawano	273.2	--	35.6	82.2	154.2	1.2
Vilas	459.1	--	19.3	107.3	295.2	37.3
Total	4,185.5	9.3	333.6	927.4	2,539.6	375.6
Northwestern Unit						
Ashland	509.9	3.7	48.6	143.0	285.2	29.4
Barron	153.8	1.3	32.4	46.2	65.7	8.2
Bayfield	771.8	0.4	74.8	174.9	413.8	107.9
Burnett	308.3	6.6	39.4	85.3	158.6	18.4
Douglas	639.8	11.1	105.6	189.0	268.2	65.9
Iron	441.3	--	49.5	100.5	272.2	19.1
Polk	244.3	2.9	61.0	77.2	92.6	10.6
Price	595.4	--	68.7	154.0	342.5	30.2
Rusk	378.8	5.9	55.3	108.1	195.4	14.1
Sawyer	641.7	5.5	79.3	177.6	345.4	33.9
Taylor	368.1	6.5	48.2	70.2	207.0	36.2
Washburn	360.9	1.2	34.3	108.6	195.6	21.2
Total	5,414.1	45.1	697.1	1,434.6	2,842.2	395.1
Central Unit						
Adams	253.1	2.6	49.5	81.1	102.2	17.7
Chippewa	229.4	2.4	31.9	41.1	144.4	9.6
Clark	321.0	6.7	62.3	113.1	121.9	17.0
Eau Clair	162.4	--	33.2	54.5	68.0	6.7
Jackson	363.1	--	57.5	82.8	192.0	30.8
Juneau	271.7	2.5	62.9	79.4	115.5	11.4
Marathon	373.9	8.1	47.2	95.1	190.3	33.2
Marquette	95.8	0.5	34.0	32.6	28.7	--
Monroe	273.4	2.8	55.1	110.3	92.2	13.0
Portage	173.8	0.7	20.7	41.8	95.9	14.7
Waupaca	181.4	4.1	33.7	37.4	105.2	1.0
Waushara	127.7	--	22.3	50.8	46.5	8.1
Wood	215.4	1.0	37.8	82.0	84.3	10.3
Total	3,042.1	31.4	548.1	902.0	1,387.1	173.5

(Table 6 continued on next page)

(Table 6 continued)

Forest Survey Unit and county	All classes	Stocking class of growing-stock trees				
		Nonstocked[2]	Poorly stocked	Moderately stocked	Fully stocked	Over-stocked
Southwestern Unit						
Buffalo	185.3	--	50.8	43.1	87.8	3.6
Crawford	179.4	--	47.1	64.8	67.5	--
Dunn	182.2	1.3	51.3	64.8	62.9	1.9
Grant	193.9	0.2	51.8	74.2	67.7	--
Iowa	137.5	1.3	47.0	53.0	35.9	0.3
La Crosse	136.5	--	32.3	43.1	61.1	--
Lafayette	38.7	--	21.3	8.4	9.0	--
Pepin	57.8	--	16.8	23.1	17.3	0.6
Pierce	96.1	4.9	27.8	36.2	26.9	0.3
Richland	167.0	1.3	27.3	63.3	71.5	3.6
St. Croix	76.8	5.5	24.1	21.9	22.7	2.6
Sauk	182.3	1.5	40.0	49.1	90.4	1.3
Trempealeau	170.6	2.1	20.8	75.0	67.9	4.8
Vernon	223.0	7.3	60.2	76.1	76.6	2.8
Total	2,027.1	25.4	518.6	696.1	765.2	21.8
Southeastern Unit						
Brown	46.2	--	6.2	14.7	25.0	0.3
Calumet	17.7	--	2.3	4.8	9.8	0.8
Columbia	98.0	0.9	13.7	27.2	48.9	7.3
Dane	79.2	1.9	13.2	40.4	23.6	0.1
Dodge	39.8	2.6	13.8	15.0	7.8	0.6
Door	105.3	0.4	5.1	24.4	75.4	--
Fond du Lac	33.3	2.0	5.6	1.9	23.5	0.3
Green	40.4	1.5	8.7	25.4	4.8	--
Green Lake	30.2	1.1	5.0	15.1	9.0	--
Jefferson	47.3	7.2	11.9	11.6	14.4	2.2
Kenosha	23.9	3.1	8.3	3.8	8.7	--
Kewaunee	45.2	5.2	5.9	7.3	23.4	3.4
Manitowoc	67.0	2.5	14.4	11.5	38.6	--
Milwaukee	8.1	--	--	4.0	4.1	--
Outagamie	67.2	0.7	15.7	7.4	43.1	0.3
Ozaukee	18.8	2.6	--	2.8	13.4	--
Racine	18.8	0.9	1.0	6.6	10.3	--
Rock	35.5	--	7.3	20.9	7.3	--
Sheboygan	62.2	--	2.0	12.6	47.6	--
Walworth	39.1	2.9	7.0	10.0	17.0	2.2
Washington	51.8	--	11.5	23.5	16.1	0.7
Waukesha	38.6	5.2	6.7	7.4	19.3	--
Winnebago	20.1	--	5.2	1.4	13.5	--
Total	1,033.7	40.7	170.5	299.7	504.6	18.2
All counties	15,702.5	151.9	2,267.9	4,259.8	8,038.7	984.2

[1] This table is based on the stocking percent of growing-stock trees, rather than that of all live trees. For this table, to use the definition of stocking found in the appendix, replace the term "all live" by "growing-stock."

[2] Area of nonstocked in this table and in Table 8 differs from that in other tables in this report because this table includes land stocked only with growing-stock trees, rather than with all live trees.

Table 7.--Area of timberland by forest type group/local type and ownership class, Wisconsin,1996

(In thousand acres)

Forest type group/ local type	All ownerships	Ownership class									
		Public					Private				
		Total public	National forest	Other federal	State	County and municipal	Total private	Indian	Forest industry	Individual	Corporate
White-red-jack pine											
Jack pine	387.4	167.6	26.5	11.5	20.5	109.1	219.8	4.0	31.4	21.8	162.6
Red pine	602.8	249.4	86.7	7.1	47.8	107.8	353.4	6.5	92.8	24.9	229.2
White pine	191.5	57.0	13.8	10.9	3.7	28.6	134.5	7.6	2.6	17.9	106.4
Total	1,181.7	474.0	127.0	29.5	72.0	245.5	707.7	18.1	126.8	64.6	498.2
Spruce-fir											
Balsam fir	309.4	126.7	47.0	- -	37.5	42.2	182.7	4.4	25.7	7.4	145.2
White spruce	80.9	42.1	27.4	- -	6.8	7.9	38.8	- -	12.8	- -	26.0
Black spruce	330.4	151.8	59.3	- -	22.6	69.9	178.6	5.8	53.6	17.7	101.5
Northern white-cedar	319.3	120.7	53.6	- -	6.1	61.0	198.6	13.6	21.8	13.9	149.3
Tamarack	301.9	78.2	23.6	- -	21.6	33.0	223.7	2.1	14.9	22.3	184.4
Total	1,341.9	519.5	210.9	- -	94.6	214.0	822.4	25.9	128.8	61.3	606.4
Oak-hickory											
Oak-hickory	2,885.5	470.2	27.7	48.9	126.4	267.2	2,415.3	23.9	74.7	131.5	2,185.2
Total	2,885.5	470.2	27.7	48.9	126.4	267.2	2,415.3	23.9	74.7	131.5	2,185.2
Elm-ash-cottonwood											
Elm-ash-soft maple	1,528.8	404.2	83.5	34.5	100.0	186.2	1,124.6	13.9	69.4	56.1	985.2
Total	1,528.8	404.2	83.5	34.5	100.0	186.2	1,124.6	13.9	69.4	56.1	985.2
Maple-beech-birch											
Maple-basswood	5,299.7	1,359.3	541.5	29.1	165.6	623.1	3,940.4	188.7	454.1	218.9	3,078.7
Total	5,299.7	1,359.3	541.5	29.1	165.6	623.1	3,940.4	188.7	454.1	218.9	3,078.7
Aspen-birch											
Aspen	2,885.7	1,149.7	318.6	15.2	144.5	671.4	1,736.0	57.1	224.8	130.2	1,323.9
Paper birch	493.7	141.8	49.6	- -	40.8	51.4	351.9	15.9	20.8	21.7	293.5
Balsam poplar	29.1	16.3	0.2	- -	0.2	15.9	12.8	- -	- -	- -	12.8
Total	3,408.5	1,307.8	368.4	15.2	185.5	738.7	2,100.7	73.0	245.6	151.9	1,630.2
Nonstocked	56.4	12.1	4.5	- -	- -	7.6	44.3	- -	2.8	7.4	34.1
All types	15,702.5	4,547.1	1,363.5	157.2	744.1	2,282.3	11,155.4	343.5	1,102.2	691.7	9,018.0

Table 8.--Area of timberland by ownership class and stocking class of growing-stock trees[1], Wisconsin, 1996

(In thousand acres)

Ownership class	All classes	Stocking class of growing-stock trees				
		Nonstocked [2]	Poorly stocked	Moderately stocked	Fully stocked	Over-stocked
Public						
National forest	1,363.5	5.3	91.5	289.6	838.9	138.2
Other federal	157.2	0.4	37.3	56.7	52.8	10.0
State	744.1	7.5	108.7	184.4	378.2	65.3
County and municipal	2,282.3	13.7	245.0	564.8	1,220.3	238.5
Total	4,547.1	26.9	482.5	1,095.5	2,490.2	452.0
Private						
Indian	343.5	- -	22.5	42.1	244.9	34.0
Forest industry	1,102.2	2.8	55.8	246.0	686.4	111.2
Individual	9,018.0	114.3	1,597.6	2,695.7	4,266.6	343.8
Corporate	691.7	7.9	109.5	180.5	350.6	43.2
Total	11,155.4	125.0	1,785.4	3,164.3	5,548.5	532.2
All ownerships	15,702.5	151.9	2,267.9	4,259.8	8,038.7	984.2

[1]This table is based on the stocking percent of growing-stock trees, rather than that of all live trees. For this table, to use the definition of stocking found in the appendix, replace the term "all live" with "growing-stock."

[2]Area of nonstocked in this table and in Table 6 differs from that in other tables in this report because this table includes land stocked with only growing-stock trees, rather than with all live trees.

Table 9.--Area of timberland by forest type group/local type and stand-size class, Wisconsin, 1996

(In thousand acres)

Forest type group/ local type	All stands	Stand-size class			
		Sawtimber	Poletimber	Sapling-seedling	Nonstocked
White-red-jack pine					
Jack pine	387.4	84.7	169.9	132.8	--
Red pine	602.8	174.0	242.9	185.9	--
White pine	191.5	126.1	28.6	36.8	--
Total	1,181.7	384.8	441.4	355.5	--
Spruce-fir					
Balsam fir	309.4	35.1	102.2	172.1	--
White spruce	80.9	20.3	23.4	37.2	--
Black spruce	330.4	1.8	50.5	278.1	--
Northern white-cedar	319.3	100.3	162.7	56.3	--
Tamarack	301.9	26.8	89.7	185.4	--
Total	1,341.9	184.3	428.5	729.1	--
Oak-hickory					
Oak-hickory	2,885.5	1,386.3	1,026.1	473.1	--
Total	2,885.5	1,386.3	1,026.1	473.1	--
Elm-ash-cottonwood					
Elm-ash-soft maple	1,528.8	299.5	657.2	572.1	--
Total	1,528.8	299.5	657.2	572.1	--
Maple-beech-birch					
Maple-basswood	5,299.7	1,854.6	2,464.3	980.8	--
Total	5,299.7	1,854.6	2,464.3	980.8	--
Aspen-birch					
Aspen	2,885.7	291.6	1,012.3	1,581.8	--
Paper birch	493.7	61.6	318.0	114.1	--
Balsam poplar	29.1	6.4	8.2	14.5	--
Total	3,408.5	359.6	1,338.5	1,710.4	--
Nonstocked	56.4	--	--	--	56.4
All types	15,702.5	4,469.1	6,356.0	4,821.0	56.4

Table 10.--Number of all live trees on timberland by species group and diameter class, Wisconsin, 1996

(In thousand trees)

Species group	All classes	Diameter class (inches at breast height)											
		1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods													
Jack pine	174,862	57,151	44,195	35,111	22,118	10,759	4,099	1,041	303	72	13	--	--
Red pine	219,991	43,696	48,460	52,373	38,561	18,803	9,131	4,311	2,107	1,316	732	501	--
White pine	164,742	79,874	29,117	17,035	13,508	7,591	5,256	3,685	2,550	1,878	1,453	2,395	400
White spruce	75,728	27,713	20,225	11,278	7,539	4,103	2,439	1,142	720	353	141	75	--
Black spruce	279,670	154,713	85,168	29,523	7,836	1,885	345	83	60	24	24	9	--
Balsam fir	759,216	509,865	144,420	65,495	26,630	8,701	2,869	939	216	69	4	8	--
Hemlock	74,820	25,222	13,890	9,209	7,291	6,334	4,680	2,871	2,062	1,409	846	947	59
Tamarack	188,675	92,293	46,956	29,331	12,860	4,934	1,678	388	122	84	10	19	--
Eastern redcedar	16,219	9,807	4,206	1,484	389	189	113	12	10	9	--	--	--
Northern white-cedar	270,363	75,007	70,921	57,694	34,098	17,222	9,565	3,625	1,442	570	117	95	7
Other softwoods	6,688	1,947	1,848	1,719	677	264	155	38	19	14	7	--	--
Total softwoods	2,230,974	1,077,288	509,406	310,252	171,507	80,785	40,330	18,135	9,611	5,798	3,347	4,049	466
Hardwoods													
Select white oak	194,056	70,769	33,549	22,074	20,930	16,103	11,183	7,805	4,876	2,486	1,674	2,392	215
Select red oak	260,800	102,039	30,732	26,472	27,817	22,952	19,306	13,814	8,060	4,280	2,046	2,934	348
Other red oak	205,842	93,132	27,888	23,425	20,470	15,735	11,556	6,163	3,473	1,787	1,062	1,096	55
Select hickory	73,766	43,692	11,937	7,292	4,619	2,832	1,732	855	446	206	83	72	--
Other hickory	77,893	44,070	16,542	8,647	4,769	2,112	1,010	555	139	32	17	--	--
Basswood	273,816	133,129	43,355	28,445	22,951	18,908	13,187	7,492	3,441	1,332	774	712	90
Beech	17,051	9,668	3,246	1,650	752	550	312	311	288	117	49	101	7
Yellow birch	104,041	46,007	20,280	13,844	8,979	6,338	3,913	2,216	1,240	548	296	371	9
Hard maple	903,799	459,054	186,836	103,292	67,430	41,166	20,142	11,563	6,354	3,451	2,198	2,209	104
Soft maple	1,135,994	581,894	245,618	144,544	81,143	43,646	21,163	9,437	4,180	2,288	806	1,147	128
Elm	328,943	202,358	72,533	27,272	14,515	6,062	3,374	1,543	622	378	157	119	10
Black ash	356,918	190,578	85,063	42,011	22,575	9,866	4,102	1,734	593	275	54	67	--
White & green ash	271,357	167,136	41,027	24,463	15,957	9,975	6,141	3,589	1,714	688	388	252	27
Cottonwood	3,613	1,095	549	218	271	315	297	186	127	211	109	165	70
Willow	5,759	3,402	402	294	363	386	332	243	107	93	35	68	34
Hackberry	10,835	7,212	2,466	191	508	264	74	72	18	15	--	15	--
Balsam poplar	19,691	10,599	3,703	2,320	1,058	819	510	371	189	64	18	40	--
Bigtooth aspen	420,875	294,496	57,025	20,835	15,611	13,615	9,675	5,922	2,350	917	216	213	--
Quaking aspen	1,518,672	1,039,820	243,187	97,696	59,247	39,270	22,203	10,654	4,589	1,367	413	217	--
Paper birch	364,856	161,325	72,499	56,176	41,813	21,659	7,889	2,545	706	180	35	29	--
River birch	4,058	1,827	483	483	550	360	206	79	54	--	8	8	--
Tupelo	29	--	--	--	--	29	--	--	--	--	--	--	--
Black cherry	288,786	204,487	47,256	17,510	10,043	5,351	2,315	1,053	470	179	73	49	--
Black walnut	10,496	4,092	1,851	1,120	1,016	764	576	515	293	135	56	65	13
Butternut	6,290	1,890	882	773	931	755	423	267	176	104	37	52	--
Other hardwoods	113,719	67,992	21,993	11,722	6,365	2,761	1,562	783	309	93	80	53	6
Total hardwoods	6,971,955	4,487,086	1,352,928	700,801	453,809	283,219	163,417	89,806	44,838	21,234	10,684	12,454	1,125
Noncommercial species	649,446	545,323	82,026	18,032	3,126	626	234	39	24	8	--	8	--
All species	9,852,375	5,564,374	1,862,334	1,011,053	625,316	364,004	203,747	107,941	54,449	27,032	14,031	16,503	1,591

Table 11.--Number of growing-stock trees on timberland by species group and diameter class, Wisconsin, 1996

(In thousand trees)

Species group	All classes	Diameter class (inches at breast height)											
		1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods													
Jack pine	167,384	55,903	42,164	33,046	20,793	10,166	3,937	1,022	276	64	13	--	--
Red pine	216,739	43,399	47,479	51,041	38,184	18,642	9,076	4,284	2,085	1,316	732	501	--
White pine	160,144	79,094	28,706	16,311	12,194	7,022	5,029	3,406	2,413	1,836	1,431	2,319	383
White spruce	74,513	27,602	20,135	10,802	7,213	3,964	2,417	1,124	709	331	141	75	--
Black spruce	277,821	154,347	84,061	29,269	7,734	1,865	345	83	60	24	24	9	--
Balsam fir	754,651	508,980	143,097	64,131	26,185	8,349	2,770	872	186	69	4	8	--
Hemlock	70,164	24,736	13,197	8,655	6,420	5,589	4,128	2,582	1,772	1,327	792	907	59
Tamarack	185,794	91,972	45,974	28,695	12,554	4,565	1,496	347	105	67	10	9	--
Eastern redcedar	14,632	9,510	3,687	1,050	209	87	80	--	--	9	--	--	--
Northern white-cedar	245,548	74,263	66,589	49,886	28,975	13,621	7,867	2,936	959	337	72	43	--
Other softwoods	5,927	1,866	1,653	1,386	643	197	113	38	10	14	7	--	--
Total softwoods	2,173,317	1,071,672	496,742	294,272	161,104	74,067	37,258	16,694	8,575	5,394	3,226	3,871	442
Hardwoods													
Select white oak	170,227	67,989	27,891	18,436	17,910	13,584	9,354	6,461	3,947	1,904	1,178	1,510	63
Select red oak	244,506	100,740	27,865	22,791	25,628	21,448	17,641	12,696	7,353	3,946	1,767	2,394	237
Other red oak	180,603	92,127	24,042	17,926	15,146	12,428	8,708	4,761	2,696	1,272	813	665	19
Select hickory	69,518	42,432	10,836	6,682	4,131	2,523	1,462	748	375	181	76	72	--
Other hickory	73,736	42,960	15,264	7,873	4,336	1,896	820	451	104	32	--	--	--
Basswood	260,229	130,864	39,240	25,652	21,597	17,865	12,434	6,997	3,175	1,218	629	522	36
Beech	15,904	9,668	3,246	811	616	550	250	288	263	94	32	79	7
Yellow birch	90,719	44,618	18,039	10,547	6,706	4,686	2,773	1,586	893	399	199	268	5
Hard maple	844,614	444,899	170,747	94,797	60,114	35,945	16,770	9,632	5,170	2,949	1,818	1,729	44
Soft maple	1,053,340	567,504	219,834	128,063	69,869	37,075	17,011	7,518	3,248	1,664	636	847	71
Elm	306,906	198,482	63,953	23,669	11,530	4,824	2,330	1,198	433	271	118	96	2
Black ash	339,610	186,987	78,909	38,111	20,449	9,181	3,587	1,576	495	220	38	57	--
White & green ash	260,573	164,982	38,849	22,169	14,255	8,830	5,421	3,287	1,578	635	328	221	18
Cottonwood	3,482	1,095	549	218	241	315	297	176	127	168	95	165	36
Willow	4,817	3,315	303	239	87	201	228	220	74	52	35	53	10
Hackberry	9,762	7,050	1,761	191	370	204	74	72	18	15	--	7	--
Balsam poplar	19,026	10,410	3,703	2,120	875	791	472	371	180	64	8	32	--
Bigtooth aspen	410,095	291,738	55,063	19,199	14,137	12,541	8,960	5,331	2,069	772	145	140	--
Quaking aspen	1,475,926	1,029,944	234,694	92,145	53,116	34,738	17,721	8,656	3,600	977	269	66	--
Paper birch	346,248	159,117	68,330	51,082	38,246	19,748	6,779	2,126	614	152	25	29	--
River birch	3,799	1,743	483	483	487	360	147	68	28	--	--	--	--
Tupelo	29	--	--	--	--	29	--	--	--	--	--	--	--
Black cherry	258,852	198,625	34,991	11,947	6,535	3,636	1,729	770	414	134	49	22	--
Black walnut	8,956	3,897	1,620	891	747	544	440	418	237	73	55	34	--
Butternut	4,408	1,890	525	501	427	433	268	145	104	78	8	29	--
Other hardwoods	91,577	65,307	13,788	6,613	3,467	1,295	637	304	108	40	8	10	--
Total hardwoods	6,547,462	3,868,383	1,154,525	603,156	391,022	245,670	136,313	75,856	37,303	17,310	8,329	9,047	548
All species	8,720,779	4,940,055	1,651,267	897,428	552,126	319,737	173,571	92,550	45,878	22,704	11,555	12,918	990

Table 12.--Net volume of growing stock on timberland by species group and diameter class, Wisconsin, 1996

(In thousand cubic feet)

Species group	All classes	Diameter class (inches at breast height)									
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods											
Jack pine	381,915	78,719	109,905	96,669	60,827	23,244	8,962	2,874	715	--	--
Red pine	987,821	138,980	215,764	182,965	141,624	99,753	68,576	58,089	42,735	39,335	--
White pine	928,649	37,844	65,359	68,724	80,348	82,777	82,990	87,869	92,227	243,528	86,983
White spruce	237,701	28,345	41,621	43,481	41,607	28,833	24,898	14,715	8,017	6,184	--
Black spruce	155,986	75,724	45,623	20,881	6,009	2,206	2,173	1,154	1,525	691	--
Balsam fir	470,736	161,669	148,452	85,084	44,499	20,619	6,218	3,021	214	960	--
Hemlock	400,900	13,459	25,999	43,451	52,458	50,992	48,755	49,553	38,534	68,009	9,690
Tamarack	265,005	86,477	82,592	52,898	26,284	9,036	3,357	3,236	525	600	--
Eastern redcedar	7,036	3,077	1,198	1,059	1,320	--	--	382	--	--	--
Northern white-cedar	568,702	114,787	140,856	115,691	102,340	53,798	24,605	11,241	3,150	2,234	--
Other softwoods	13,057	3,408	3,708	1,980	1,812	879	257	564	449	--	--
Total softwoods	4,417,508	742,489	881,077	712,883	559,128	372,137	270,791	232,698	188,091	361,541	96,673
Hardwoods											
Select white oak	926,757	43,568	94,567	127,028	139,749	138,870	119,630	76,265	59,859	117,246	9,975
Select red oak	1,729,526	54,108	140,139	214,711	277,270	294,292	236,840	170,355	100,155	203,077	38,579
Other red oak	659,875	42,433	78,697	111,087	120,550	96,175	75,323	47,250	39,021	46,848	2,491
Select hickory	130,915	14,315	21,607	24,116	23,111	16,536	12,446	8,308	4,477	5,999	--
Other hickory	88,104	17,002	24,010	17,891	13,400	10,698	3,508	1,595	--	--	--
Basswood	1,092,419	73,560	140,720	207,987	225,516	184,925	113,714	57,473	35,985	46,939	5,600
Beech	48,468	2,131	4,185	6,627	4,729	7,606	8,901	4,600	1,908	6,161	1,620
Yellow birch	260,572	27,456	38,679	46,683	41,932	34,494	25,959	15,347	9,914	19,491	617
Hard maple	2,155,013	267,867	383,411	400,131	291,226	245,236	179,598	135,410	104,981	140,398	6,755
Soft maple	1,905,873	339,361	415,682	392,297	283,717	180,643	107,973	72,032	36,169	66,532	11,467
Elm	268,832	54,015	63,146	48,240	36,224	28,069	13,863	11,558	5,846	7,579	292
Black ash	457,099	100,700	122,447	100,504	60,804	39,496	16,737	9,796	2,216	4,399	--
White & green ash	531,927	56,016	83,457	94,724	92,148	80,382	54,691	28,717	18,839	20,126	2,827
Cottonwood	49,615	587	1,190	2,923	4,461	3,785	4,057	6,935	5,023	14,320	6,334
Willow	21,529	382	476	1,671	3,344	4,746	2,132	1,959	1,661	3,820	1,338
Hackberry	9,715	553	2,029	2,350	1,119	1,808	548	728	--	580	--
Balsam poplar	49,676	5,700	6,058	8,459	7,743	9,689	6,501	2,768	518	2,240	--
Bigtooth aspen	757,158	58,010	96,513	151,955	167,912	145,870	77,305	38,479	9,111	12,003	--
Quaking aspen	1,724,760	253,646	339,441	391,774	316,643	224,884	129,344	47,567	16,055	5,406	--
Paper birch	832,320	152,311	248,889	222,909	121,259	54,748	21,479	7,060	1,480	2,185	--
River birch	12,687	1,289	3,029	3,825	2,321	1,431	792	--	--	--	--
Tupelo	311	--	--	311	--	--	--	--	--	--	--
Black cherry	200,490	35,455	43,413	42,802	32,677	20,534	14,874	5,994	3,024	1,717	--
Black walnut	48,347	2,774	4,841	5,934	7,399	10,708	8,069	3,195	3,036	2,391	--
Butternut	28,270	1,390	2,805	5,103	5,040	3,942	3,674	3,378	480	2,458	--
Other hardwoods	65,389	14,894	17,380	11,859	9,544	6,579	2,809	1,509	308	507	--
Total hardwoods	14,055,647	1,619,523	2,376,811	2,643,901	2,289,838	1,846,146	1,240,767	758,278	460,066	732,422	87,895
All species	18,473,155	2,362,012	3,257,888	3,356,784	2,848,966	2,218,283	1,511,558	990,976	648,157	1,093,963	184,568

Table 13.—Net volume of growing stock in the saw-log portion of sawtimber trees on timberland by species group and diameter class, Wisconsin, 1996

(In thousand cubic feet)

Species group	All classes	Diameter class (inches at breast height)							
		9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods									
Jack pine	163,396	78,455	52,987	20,678	8,046	2,586	644	--	--
Red pine	578,137	160,682	130,778	92,974	63,864	53,943	39,561	36,335	--
White pine	710,334	53,378	67,495	71,133	72,010	76,439	80,364	212,913	76,602
White spruce	151,287	37,370	37,706	26,522	22,982	13,583	7,410	5,714	--
Black spruce	32,057	19,034	5,686	2,098	2,062	1,089	1,436	652	--
Balsam fir	134,960	68,740	38,588	18,307	5,551	2,710	192	872	--
Hemlock	315,161	34,597	44,830	44,667	43,093	44,054	34,335	60,838	8,747
Tamarack	83,948	45,013	23,627	8,223	3,085	2,962	484	554	--
Eastern redcedar	2,402	890	1,165	--	--	347	--	--	--
Northern white-cedar	267,348	93,749	88,817	47,772	22,033	10,108	2,844	2,025	--
Other softwoods	5,128	1,621	1,578	784	232	509	404	--	--
Total softwoods	2,444,158	593,529	493,257	333,158	242,958	208,330	167,674	319,903	85,349
Hardwoods									
Select white oak	478,146	--	89,567	98,671	88,409	57,466	45,677	90,498	7,858
Select red oak	956,610	--	178,052	209,796	175,877	128,925	76,564	157,026	30,370
Other red oak	307,721	--	77,317	68,938	56,440	36,127	30,165	36,752	1,982
Select hickory	47,089	--	13,379	11,010	8,789	6,032	3,311	4,568	--
Other hickory	18,261	--	7,622	7,019	2,461	1,159	--	--	--
Basswood	484,544	--	150,082	135,309	86,097	44,144	27,953	36,552	4,407
Beech	27,364	--	3,213	5,723	6,926	3,631	1,521	4,986	1,364
Yellow birch	111,071	--	28,186	25,878	20,310	12,266	7,989	15,932	510
Hard maple	796,838	--	187,035	176,029	134,440	103,301	81,048	109,596	5,389
Soft maple	529,948	--	179,535	127,850	79,854	54,482	27,656	51,527	9,044
Elm	69,520	--	21,692	19,143	9,923	8,442	4,350	5,747	223
Black ash	97,029	--	41,479	29,601	12,987	7,699	1,761	3,502	--
White & green ash	215,585	--	61,431	58,576	41,158	21,991	14,531	15,680	2,218
Cottonwood	32,323	--	2,556	2,451	2,836	5,004	3,685	10,878	4,913
Willow	13,149	--	1,898	3,138	1,501	1,422	1,229	2,912	1,049
Hackberry	3,304	--	689	1,242	395	538	--	440	--
Balsam poplar	21,473	--	5,196	7,114	4,898	2,106	394	1,765	--
Bigtooth aspen	329,649	--	115,009	108,819	59,339	29,929	7,111	9,442	--
Quaking aspen	531,934	--	214,182	166,002	98,391	36,674	12,470	4,215	--
Paper birch	140,628	--	78,066	38,775	15,757	5,270	1,108	1,652	--
River birch	3,302	--	1,583	1,102	617	--	--	--	--
Black cherry	54,872	--	20,995	14,620	11,043	4,570	2,318	1,326	--
Black walnut	26,147	--	5,002	8,042	6,246	2,520	2,403	1,934	--
Butternut	14,244	--	3,455	2,974	2,825	2,646	382	1,962	--
Other hardwoods	15,156	--	6,334	4,846	2,148	1,183	245	400	--
Total hardwoods	5,325,907	--	1,493,555	1,332,668	929,667	577,527	353,871	569,292	69,327
All species	7,770,065	593,529	1,986,812	1,665,826	1,172,625	785,857	521,545	889,195	154,676

Table 14.--Net volume of sawtimber on timberland by species group and diameter class, Wisconsin, 1996

(In thousand board feet)[1]

Species group	All classes	Diameter class (inches at breast height)							
		9.0 - 10.9	11.0 - 12.9	13.0 - 14.9	15.0 - 16.9	17.0 - 18.9	19.0 - 20.9	21.0 - 28.9	29.0+
Softwoods									
Jack pine	945,233	459,932	298,764	118,885	47,761	15,848	4,043	--	--
Red pine	3,357,335	926,832	729,668	528,265	373,485	324,458	244,181	230,446	--
White pine	4,399,870	315,058	380,033	406,713	424,303	464,392	501,233	1,385,181	522,957
White spruce	899,918	221,112	217,280	155,802	138,522	83,561	46,553	37,088	--
Black spruce	185,159	108,377	32,144	12,231	12,389	6,704	9,100	4,214	--
Balsam fir	787,496	405,853	219,234	105,899	33,012	16,528	1,192	5,778	--
Hemlock	1,895,573	208,420	252,620	254,159	252,056	265,507	212,255	391,312	59,244
Tamarack	489,419	262,433	135,578	48,049	18,521	18,276	3,022	3,540	--
Eastern redcedar	14,564	5,412	6,975	--	--	2,177	--	--	--
Northern white-cedar	1,608,145	583,537	520,998	280,305	131,381	61,442	17,703	12,779	--
Other softwoods	29,792	9,391	8,859	4,523	1,363	3,098	2,558	--	--
Total softwoods	14,612,504	3,506,357	2,802,153	1,914,831	1,432,793	1,261,991	1,041,840	2,070,338	582,201
Hardwoods									
Select white oak	2,997,736	--	564,701	602,661	542,210	357,329	288,603	588,819	53,413
Select red oak	5,995,099	--	1,117,531	1,278,566	1,078,715	803,233	485,606	1,025,310	206,138
Other red oak	1,930,853	--	494,335	423,009	346,681	224,607	190,429	238,432	13,360
Select hickory	296,022	--	86,002	67,775	54,039	37,581	20,964	29,661	--
Other hickory	114,327	--	48,885	43,070	15,123	7,249	--	--	--
Basswood	3,021,734	--	938,658	828,844	531,606	276,503	177,478	238,879	29,766
Beech	175,170	--	20,623	35,960	43,606	23,124	9,782	32,670	9,405
Yellow birch	706,765	--	182,675	161,629	126,785	77,291	50,946	104,015	3,424
Hard maple	5,051,600	--	1,198,347	1,093,869	837,984	651,461	517,851	715,644	36,444
Soft maple	3,369,995	--	1,156,657	796,956	498,149	343,602	176,850	336,427	61,354
Elm	440,171	--	140,452	118,704	61,573	52,923	27,560	37,457	1,502
Black ash	606,552	--	261,788	182,089	80,400	48,297	11,243	22,735	--
White & green ash	1,330,690	--	378,203	354,202	251,617	136,881	91,992	102,795	15,000
Cottonwood	207,272	--	16,372	15,002	17,332	31,004	23,163	71,012	33,387
Willow	83,020	--	12,224	19,207	9,178	8,791	7,727	18,847	7,046
Hackberry	20,823	--	4,454	7,664	2,443	3,388	--	2,874	--
Balsam poplar	133,678	--	32,669	43,604	30,270	13,153	2,517	11,465	--
Bigtooth aspen	2,038,004	--	711,996	664,633	366,358	188,099	45,355	61,563	--
Quaking aspen	3,292,105	--	1,332,280	1,015,015	607,443	230,382	79,512	27,473	--
Paper birch	883,152	--	494,009	239,963	98,090	33,245	7,093	10,752	--
River birch	20,317	--	9,839	6,719	3,759	--	--	--	--
Black cherry	345,189	--	133,773	90,743	68,676	28,688	14,766	8,543	--
Black walnut	164,479	--	32,091	49,932	38,818	15,858	15,282	12,498	--
Butternut	89,717	--	21,877	18,445	17,567	16,611	2,434	12,783	--
Other hardwoods	93,433	--	39,410	29,447	13,128	7,366	1,539	2,543	--
Total hardwoods	33,407,903	--	9,429,851	8,187,708	5,741,550	3,616,666	2,248,692	3,713,197	470,239
All species	48,020,407	3,506,357	12,232,004	10,102,539	7,174,343	4,878,657	3,290,532	5,783,535	1,052,440

[1]International 1/4-inch rule.

Table 15.--Net volume of sawtimber on timberland by species group, grade, diameter class, and Forest Survey Unit, Wisconsin, 1996

(In thousand board feet)[1]

Northeastern Unit

Species	Log grade 1					Log grade 2					Log grade 3					Log grade 4				
		Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)			
	Total [2]	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+
Softwoods																				
Jack pine	--	--	--	--	--	12,096	12,096	--	--	--	243,734	202,437	41,297	--	--	--	--	--	--	--
Red pine	121,830	4,200	47,470	39,686	30,474	104,943	14,139	55,642	12,637	22,525	1,284,706	925,300	220,271	62,800	76,335	--	--	--	--	--
White pine	387,679	3,732	55,465	42,459	286,023	360,681	102,673	76,917	29,876	151,215	784,464	214,730	166,067	108,359	295,308	133,090	18,500	20,842	24,492	69,256
White spruce	--	--	--	--	--	19,583	4,776	8,746	--	6,061	353,572	234,203	84,271	13,195	21,903	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--	--	--	--	79,924	74,084	3,766	2,074	--	--	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	283,642	260,083	17,781	--	5,778	--	--	--	--	--
Hemlock	239,775	--	45,930	53,140	140,705	245,609	61,435	86,883	20,044	77,247	729,723	338,070	189,161	82,059	120,433	--	--	--	--	--
Tamarack	--	--	--	--	--	2,795	2,795	--	--	--	140,676	127,591	11,276	1,809	--	--	--	--	--	--
Eastern redcedar	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Northern white-cedar	5,175	--	5,175	--	--	56,508	33,824	19,434	--	3,250	637,500	586,266	44,046	2,744	4,444	--	--	--	--	--
Other softwoods	--	--	--	--	--	--	--	--	--	--	4,284	4,284	--	--	--	--	--	--	--	--
Total	754,459	7,932	154,040	135,285	457,202	802,215	231,738	247,622	62,557	260,298	4,542,225	2,967,048	777,936	273,040	524,201	133,090	18,500	20,842	24,492	69,256

Species	Tree grade 1					Tree grade 2					Tree grade 3					Tie and timber				
		Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)			
	Total [2]	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+
Hardwoods																				
Select white oak	1,176	--	1,176	--	--	15,563	6,849	5,938	--	2,776	24,861	11,526	5,650	--	7,685	5,343	2,226	3,117	--	--
Select red oak	351,312	--	148,364	45,403	157,545	411,060	206,185	154,787	37,082	13,006	320,652	208,802	65,166	6,262	40,422	49,550	31,502	11,181	--	6,867
Other red oak	13,003	--	7,589	1,954	3,460	21,551	2,876	6,526	--	12,149	55,514	36,547	15,516	1,698	1,753	60,208	41,892	15,190	--	3,126
Select hickory	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Other hickory	--	--	--	--	--	6,618	5,152	1,466	--	--	7,798	7,798	--	--	--	5,024	5,024	--	--	--
Basswood	268,244	27,605	146,176	28,208	66,255	294,199	237,612	36,049	13,777	6,761	355,350	289,985	16,891	7,922	40,552	8,312	8,312	--	--	--
Beech	22,235	--	10,935	--	11,300	29,566	8,684	15,823	5,059	--	30,398	14,194	16,204	--	--	18,032	6,253	--	2,374	9,405
Yellow birch	79,120	--	22,767	15,229	41,124	97,912	51,569	46,343	--	--	98,929	66,251	21,223	4,127	7,328	13,693	8,412	3,377	--	1,904
Hard maple	568,956	--	223,938	135,211	209,807	679,714	325,677	225,321	59,152	69,564	815,309	557,450	135,309	47,637	74,913	142,309	62,138	42,508	20,088	17,575
Soft maple	68,934	--	43,096	9,585	16,253	178,631	122,300	43,013	4,013	9,305	323,491	274,942	35,633	8,542	4,374	40,566	29,694	10,872	--	--
Elm	7,099	--	2,316	--	4,783	12,030	8,413	1,744	1,873	--	19,398	13,716	3,946	1,736	--	3,858	3,858	--	--	--
Black ash	5,870	--	5,870	--	--	44,362	33,798	10,564	--	--	56,168	47,353	5,152	--	3,663	7,972	4,255	3,717	--	--
White & green ash	64,944	--	43,283	15,763	5,898	89,220	68,531	17,479	--	3,210	111,702	95,049	10,100	3,313	3,240	11,030	7,773	3,257	--	--
Cottonwood	--	--	--	--	--	2,909	1,769	1,140	--	--	4,725	2,682	2,043	--	--	3,419	2,347	1,072	--	--
Willow	--	--	--	--	--	1,061	1,061	--	--	--	--	--	--	--	--	--	--	--	--	--
Hackberry	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Balsam poplar	6,363	--	--	--	6,363	20,260	9,541	3,100	2,517	5,102	35,793	16,064	19,729	--	--	18,922	18,922	--	--	--
Bigtooth aspen	31,279	--	28,078	--	3,201	195,795	118,285	58,268	9,358	9,884	220,423	175,974	41,797	2,652	--	11,057	11,057	--	--	--
Quaking aspen	54,535	--	42,509	12,026	--	262,561	165,447	93,943	3,171	--	557,280	459,403	82,203	5,432	10,242	145,323	106,399	35,013	3,911	--
Paper birch	22,291	--	13,907	--	8,384	121,593	85,323	34,002	2,268	--	198,532	181,508	17,024	--	--	22,477	19,487	2,990	--	--
River birch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Black cherry	5,131	--	5,131	--	--	25,548	18,568	6,980	--	--	28,236	25,638	2,598	--	--	2,415	2,415	--	--	--
Black walnut	--	--	--	--	--	--	--	--	--	--	923	--	923	--	--	--	--	--	--	--
Butternut	818	--	818	--	--	4,599	3,097	1,502	--	--	7,586	4,083	3,503	--	--	--	--	--	--	--
Other hardwoods	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	1,571,310	27,605	745,953	263,379	534,373	2,514,752	1,480,737	763,988	138,270	131,757	3,273,068	2,488,965	500,610	89,321	194,172	569,510	371,966	132,294	26,373	38,877
All species	2,325,769	35,537	899,993	398,664	991,575	3,316,967	1,712,475	1,011,610	200,827	392,055	7,815,293	5,456,013	1,278,546	362,361	718,373	702,600	390,466	153,136	50,865	108,133

(Table 15 continued on next page)

(Table 15 continued)

Northwestern Unit

Species	Log grade 1					Log grade 2					Log grade 3					Log grade 4				
		Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)			
	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+
Softwoods																				
Jack pine	--	--	--	--	--	12,196	12,196	--	--	--	376,880	362,895	12,088	1,897	--	--	--	--	--	--
Red pine	97,846	9,527	40,176	31,433	16,710	150,922	43,340	70,631	30,433	6,518	902,670	557,096	211,033	60,344	74,197	--	--	--	--	--
White pine	188,859	5,887	53,285	19,493	110,194	325,776	67,160	70,380	40,686	147,550	488,429	139,862	116,169	60,498	171,900	66,314	9,585	17,676	8,384	30,669
White spruce	--	--	--	--	--	9,206	1,438	2,414	--	5,354	481,692	322,197	122,367	33,358	3,770	--	--	--	--	--
Black spruce	--	--	--	--	--	1,631	--	1,631	--	--	101,221	78,668	11,313	7,026	4,214	--	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	486,138	454,837	30,109	1,192	--	--	--	--	--	--
Hemlock	94,189	--	27,472	19,704	47,013	105,599	31,706	27,945	11,819	34,129	284,801	151,565	88,086	21,808	23,342	--	--	--	--	--
Tamarack	--	--	--	--	--	13,283	13,283	--	--	--	244,221	222,307	17,161	1,213	3,540	--	--	--	--	--
Eastern redcedar	--	--	--	--	--	--	--	--	--	--	2,006	2,006	--	--	--	--	--	--	--	--
Northern white-cedar	17,455	--	17,455	--	--	115,727	80,257	35,470	--	--	571,756	501,472	53,357	13,996	2,931	--	--	--	--	--
Other softwoods	--	--	--	--	--	--	--	--	--	--	11,207	7,235	1,414	2,558	--	--	--	--	--	--
Total	398,349	15,414	138,388	70,630	173,917	734,340	249,380	208,471	82,938	193,551	3,951,021	2,800,140	663,097	203,890	283,894	66,314	9,585	17,676	8,384	30,669

Species	Tree grade 1					Tree grade 2					Tree grade 3					Tie and timber				
		Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)			
	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+
Hardwoods																				
Select white oak	23,787	--	13,585	3,732	6,470	92,070	30,505	40,446	6,719	14,400	140,155	94,991	20,516	10,184	14,464	74,394	48,900	20,135	3,348	2,011
Select red oak	344,684	--	169,840	55,124	119,720	598,214	356,438	181,596	30,396	29,784	612,934	465,010	109,445	19,695	18,784	78,159	47,030	18,850	4,227	8,052
Other red oak	10,080	--	--	3,692	6,388	17,426	3,334	5,347	7,189	1,556	68,079	35,915	24,003	--	8,161	39,741	28,341	9,816	1,584	--
Select hickory	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Other hickory	--	--	--	--	--	3,259	3,259	--	--	--	8,364	8,364	--	--	--	5,323	3,856	1,467	--	--
Basswood	284,888	25,963	204,292	26,118	28,515	360,100	288,601	64,542	5,054	1,903	406,130	358,031	38,640	4,249	5,210	16,274	8,624	4,641	3,009	--
Beech	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Yellow birch	89,861	--	31,931	15,826	42,104	108,009	68,912	37,577	--	1,520	112,087	95,101	13,248	3,738	--	16,060	9,890	6,170	--	--
Hard maple	257,824	--	154,870	54,623	48,331	512,972	292,056	161,271	24,232	35,413	660,978	504,597	105,122	29,286	21,973	113,258	57,469	34,482	13,350	7,957
Soft maple	85,104	--	57,890	14,423	12,791	275,569	187,115	60,847	9,177	18,430	459,624	378,909	55,560	11,595	13,560	76,677	54,478	22,199	--	--
Elm	16,147	--	11,659	1,987	2,501	17,482	10,857	3,755	1,368	1,502	24,200	18,428	4,015	1,757	--	7,583	6,427	1,156	--	--
Black ash	32,518	3,485	27,217	1,816	--	109,731	84,100	17,076	5,101	3,454	157,328	148,386	6,215	--	2,727	7,020	4,470	2,550	--	--
White & green ash	54,045	1,119	44,996	--	7,930	96,577	70,519	22,163	--	3,895	99,796	82,984	14,694	2,118	--	11,131	7,142	2,051	1,938	--
Cottonwood	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Willow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hackberry	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Balsam poplar	--	--	--	--	--	4,394	2,931	1,463	--	--	25,497	10,271	15,226	--	--	6,989	6,989	--	--	--
Bigtooth aspen	35,689	--	32,988	2,701	--	271,893	164,112	83,398	11,356	13,027	303,172	268,392	32,824	1,956	--	17,407	16,617	790	--	--
Quaking aspen	128,427	--	101,387	27,040	--	446,498	278,401	154,496	13,601	--	943,735	770,035	155,653	4,236	13,811	176,189	113,445	62,744	--	--
Paper birch	4,423	--	4,423	--	--	73,590	63,564	10,026	--	--	196,960	188,192	8,768	--	--	12,421	11,422	999	--	--
River birch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Black cherry	1,652	--	1,652	--	--	2,168	652	1,516	--	--	5,527	5,527	--	--	--	--	--	--	--	--
Black walnut	--	--	--	--	--	--	--	--	--	--	2,199	2,199	--	--	--	--	--	--	--	--
Butternut	--	--	--	--	--	7,013	5,556	1,457	--	--	4,242	1,260	2,982	--	--	--	--	--	--	--
Other hardwoods	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	1,369,129	30,567	856,730	207,082	274,750	2,996,965	1,910,912	846,976	114,193	124,884	4,231,007	3,436,592	606,911	88,814	98,690	658,626	425,100	188,050	27,456	18,020
All species	1,767,478	45,981	995,118	277,712	448,667	3,731,305	2,160,292	1,055,447	197,131	318,435	8,182,028	6,236,732	1,270,008	292,704	382,584	724,940	434,685	205,726	35,840	48,689

(Table 15 continued on next page)

(Table 15 continued)

Central Unit

Species	Log grade 1					Log grade 2					Log grade 3					Log grade 4				
		Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)			
	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+
Softwoods																				
Jack pine	3,115	1,744	1,371	--	--	9,913	9,913	--	--	--	270,426	259,427	8,853	2,146	--	--	--	--	--	--
Red pine	17,961	2,782	9,357	2,135	3,687	34,094	21,648	12,446	--	--	486,857	457,420	24,724	4,713	--	--	--	--	--	--
White pine	134,778	5,948	28,710	11,087	89,033	351,066	103,532	76,599	37,147	133,788	676,293	246,503	128,036	73,772	227,982	117,485	38,172	23,967	15,970	39,376
White spruce	--	--	--	--	--	--	--	--	--	--	16,688	15,046	1,642	--	--	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	16,451	14,801	1,650	--	--	--	--	--	--	--
Hemlock	2,371	--	2,371	--	--	18,469	2,727	10,339	--	5,403	117,927	84,071	31,120	2,736	--	--	--	--	--	--
Tamarack	--	--	--	--	--	886	886	--	--	--	57,306	53,644	3,662	--	--	--	--	--	--	--
Eastern redcedar	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Northern white-cedar	--	--	--	--	--	2,560	2,560	--	--	--	32,165	28,475	3,690	--	--	--	--	--	--	--
Other softwoods	--	--	--	--	--	--	--	--	--	--	11,152	8,105	3,047	--	--	--	--	--	--	--
Total	158,225	10,474	41,809	13,222	92,720	416,988	141,266	99,384	37,147	139,191	1,685,265	1,167,492	206,424	83,367	227,982	117,485	38,172	23,967	15,970	39,376

Species	Tree grade 1					Tree grade 2					Tree grade 3					Tie and timber				
		Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)			
	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+
Hardwoods																				
Select white oak	59,805	--	37,767	12,498	9,540	202,671	83,067	70,247	17,839	31,518	310,882	180,757	72,725	33,225	24,175	125,221	65,848	38,557	10,520	10,296
Select red oak	271,144	--	123,175	27,887	120,082	337,217	156,943	108,224	36,939	35,111	331,585	215,974	73,583	14,137	27,891	93,473	50,386	32,905	4,504	5,678
Other red oak	95,376	--	37,503	22,779	35,094	209,471	75,540	84,688	24,037	25,206	456,530	278,260	123,838	22,491	31,941	337,079	235,472	75,794	16,320	9,493
Select hickory	--	--	--	--	--	6,894	1,139	3,509	2,246	--	11,344	8,614	2,730	--	--	1,279	1,279	--	--	--
Other hickory	--	--	--	--	--	5,996	4,646	1,350	--	--	10,064	10,064	--	--	--	3,056	3,056	--	--	--
Basswood	73,066	1,459	49,274	11,810	10,523	82,435	58,165	12,639	2,417	9,214	93,039	81,999	8,742	2,298	--	8,312	4,893	1,287	2,132	--
Beech	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Yellow birch	--	--	--	--	--	10,569	7,985	2,584	--	--	16,693	15,602	1,091	--	--	4,441	3,251	1,190	--	--
Hard maple	67,432	--	33,818	15,205	18,409	117,132	59,398	43,075	7,216	7,443	121,696	83,376	25,962	--	12,358	23,645	12,576	8,969	2,100	--
Soft maple	107,850	--	63,429	18,922	25,499	233,526	148,611	66,610	4,263	14,042	380,792	297,096	51,071	5,915	26,710	56,572	38,892	13,963	--	3,717
Elm	2,771	--	2,771	--	--	5,586	2,451	1,787	1,348	--	17,834	15,345	1,253	1,236	--	6,995	6,022	973	--	--
Black ash	10,270	3,442	6,828	--	--	32,539	27,350	5,189	--	--	49,118	42,280	6,838	--	--	3,516	3,516	--	--	--
White & green ash	36,593	--	24,877	1,114	10,602	36,343	30,748	5,595	--	--	63,099	61,362	1,737	--	--	10,342	8,724	1,618	--	--
Cottonwood	10,715	--	832	2,216	7,667	910	910	--	--	--	15,585	3,178	--	--	12,407	2,464	2,464	--	--	--
Willow	--	--	--	--	--	--	--	--	--	--	5,491	--	--	1,748	3,743	2,454	2,454	--	--	--
Hackberry	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Balsam poplar	--	--	--	--	--	2,838	2,838	--	--	--	1,843	--	1,843	--	--	--	--	--	--	--
Bigtooth aspen	19,348	--	14,646	--	4,702	122,097	88,077	32,038	1,982	--	198,913	160,760	34,834	--	3,319	31,308	29,488	1,820	--	--
Quaking aspen	4,496	--	2,728	1,768	--	49,299	39,667	9,632	--	--	171,835	161,341	10,494	--	--	49,254	44,777	4,477	--	--
Paper birch	--	--	--	--	--	8,239	6,787	1,452	--	--	31,221	29,818	1,403	--	--	8,821	8,821	--	--	--
River birch	--	--	--	--	--	1,968	1,968	--	--	--	2,605	--	2,605	--	--	--	--	--	--	--
Black cherry	--	--	--	--	--	13,992	1,548	7,590	4,854	--	9,405	7,921	1,484	--	--	2,597	2,597	--	--	--
Black walnut	--	--	--	--	--	--	--	--	--	--	3,011	--	3,011	--	--	--	--	--	--	--
Butternut	2,213	--	2,213	--	--	9,776	5,935	1,407	2,434	--	6,542	1,117	5,425	--	--	--	--	--	--	--
Other hardwoods	--	--	--	--	--	--	--	--	--	--	9,426	9,426	--	--	--	1,687	1,687	--	--	--
Total	761,079	4,901	399,861	114,199	242,118	1,489,498	803,773	457,616	105,575	122,534	2,318,553	1,664,290	430,669	81,050	142,544	772,516	526,203	181,553	35,576	29,184
All species	919,304	15,375	441,670	127,421	334,838	1,906,486	945,039	557,000	142,722	261,725	4,003,818	2,831,782	637,093	164,417	370,526	890,001	564,375	205,520	51,546	68,560

(Table 15 continued on next page)

(Table 15 continued)

Southwestern Unit

Species	Log grade 1					Log grade 2					Log grade 3					Log grade 4				
		Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)			
	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+
Softwoods																				
Jack pine	--	--	--	--	--	--	--	--	--	--	15,067	15,067	--	--	--	--	--	--	--	--
Red pine	--	--	--	--	--	--	--	--	--	--	97,781	93,701	4,080	--	--	--	--	--	--	--
White pine	8,722	--	--	2,508	6,214	42,741	30,298	5,718	2,338	4,387	200,748	65,093	15,518	15,225	104,912	13,788	6,557	7,231	--	--
White spruce	--	--	--	--	--	--	--	--	--	--	9,472	9,472	--	--	--	--	--	--	--	--
Black spruce	2,383	--	2,383	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hemlock	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tamarack	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern redcedar	--	--	--	--	--	--	--	--	--	--	2,870	2,870	--	--	--	--	--	--	--	--
Northern white-cedar	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Other softwoods	--	--	--	--	--	--	--	--	--	--	1,378	1,378	--	--	--	--	--	--	--	--
Total	11,105	--	2,383	2,508	6,214	42,741	30,298	5,718	2,338	4,387	327,316	187,581	19,598	15,225	104,912	13,788	6,557	7,231	--	--

Species	Tree grade 1					Tree grade 2					Tree grade 3					Tie and timber				
		Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)			
	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+
Hardwoods																				
Select white oak	131,891	--	77,119	22,514	32,258	389,854	128,967	133,985	27,917	98,985	480,077	271,443	104,246	37,324	67,064	173,693	99,374	57,135	9,321	7,863
Select red oak	484,963	--	193,368	76,307	215,288	552,985	241,785	207,356	30,770	73,074	519,713	261,978	105,929	23,802	128,004	76,174	53,277	20,201	--	2,696
Other red oak	27,010	--	9,253	3,592	14,165	63,790	21,000	20,337	14,538	7,915	94,409	55,472	18,937	12,072	7,928	61,176	33,257	23,247	1,795	2,877
Select hickory	28,915	--	14,025	9,028	5,862	34,603	15,397	16,201	--	3,005	94,389	71,967	14,718	--	7,704	21,694	6,675	7,447	--	7,572
Other hickory	2,752	--	2,752	--	--	21,921	10,354	11,567	--	--	20,446	18,414	2,032	--	--	6,957	6,957	--	--	--
Basswood	132,355	5,800	77,079	21,314	28,162	172,559	115,910	51,206	2,935	2,508	147,713	97,497	21,238	5,828	23,150	5,025	2,843	2,182	--	--
Beech	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Yellow birch	--	--	--	--	--	1,554	--	1,554	--	--	1,555	1,555	--	--	--	--	--	--	--	--
Hard maple	114,273	--	36,600	23,186	54,487	142,040	55,923	69,649	8,043	8,425	165,683	99,149	30,716	8,980	26,838	35,434	5,576	15,171	5,006	9,681
Soft maple	84,352	--	35,202	22,733	26,417	112,661	59,455	30,355	5,209	17,642	188,784	106,088	41,263	8,115	33,318	42,104	20,974	18,021	--	3,109
Elm	27,579	--	14,887	2,016	10,676	46,494	29,956	12,969	3,569	--	79,422	65,658	10,414	3,350	--	28,114	23,044	3,256	1,814	--
Black ash	12,844	--	9,571	--	3,273	16,033	12,951	3,082	--	--	10,568	9,098	1,470	--	--	4,169	1,240	2,929	--	--
White & green ash	38,872	--	15,951	13,609	9,312	70,450	40,846	14,336	--	15,268	63,916	44,655	19,261	--	--	5,464	3,805	1,659	--	--
Cottonwood	77,039	--	19,365	5,585	52,089	20,577	4,280	6,160	--	10,137	35,456	5,618	12,862	10,173	6,803	7,792	3,685	1,112	2,995	--
Willow	1,926	--	1,711	--	215	12,014	1,188	--	3,780	7,046	7,652	3,095	1,952	--	2,605	5,845	3,022	2,823	--	--
Hackberry	2,874	--	--	--	2,874	13,495	7,664	5,831	--	--	2,577	2,577	--	--	--	874	874	--	--	--
Balsam poplar	--	--	--	--	--	--	--	--	--	--	5,013	2,951	2,062	--	--	--	--	--	--	--
Bigtooth aspen	50,049	--	40,797	--	9,252	190,689	98,424	79,607	6,760	5,898	202,512	170,493	23,429	8,590	--	5,897	5,897	--	--	--
Quaking aspen	12,167	--	9,828	2,339	--	30,001	15,334	14,667	--	--	50,982	46,116	4,866	--	--	6,321	6,321	--	--	--
Paper birch	4,086	--	1,718	--	2,368	24,979	14,267	7,911	2,801	--	55,788	55,788	--	--	--	7,147	7,147	--	--	--
River birch	--	--	--	--	--	5,789	5,789	--	--	--	7,641	7,641	--	--	--	--	--	--	--	--
Black cherry	5,650	--	5,650	--	--	43,075	29,861	13,214	--	--	59,905	53,797	6,108	--	--	1,321	1,321	--	--	--
Black walnut	18,513	--	12,094	--	6,419	44,303	28,278	13,453	2,572	--	44,194	34,485	5,425	--	4,284	1,959	--	1,959	--	--
Butternut	3,247	--	3,247	--	--	12,228	8,020	516	--	3,692	13,873	7,321	6,552	--	--	--	--	--	--	--
Other hardwoods	--	--	--	--	--	13,079	8,315	4,764	--	--	34,664	26,264	8,400	--	--	6,082	4,691	1,391	--	--
Total	1,261,357	5,800	580,217	202,223	473,117	2,035,173	953,964	718,720	108,894	253,595	2,386,932	1,519,120	441,880	118,234	307,698	503,242	289,980	158,533	20,931	33,798
All species	1,272,462	5,800	582,600	204,731	479,331	2,077,914	984,262	724,438	111,232	257,982	2,714,248	1,706,701	461,478	133,459	412,610	517,030	296,537	165,764	20,931	33,798

(Table 15 continued on next page)

(Table 15 continued)

Southeastern Unit

Species	Log grade 1					Log grade 2					Log grade 3					Log grade 4				
		Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)			
	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+
Softwoods																				
Jack pine	--	--	--	--	--	--	--	--	--	--	674	674	--	--	--	--	--	--	--	--
Red pine	--	--	--	--	--	--	--	--	--	--	55,914	55,612	302	--	--	--	--	--	--	--
White pine	7,959	1,104	947	--	5,908	19,177	3,487	4,927	--	10,763	62,442	35,575	13,240	6,192	7,435	9,649	1,015	3,427	--	5,207
White spruce	--	--	--	--	--	--	--	--	--	--	9,705	7,062	2,643	--	--	--	--	--	--	--
Black spruce	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	1,265	1,265	--	--	--	--	--	--	--	--
Hemlock	--	--	--	--	--	991	--	991	--	--	52,890	45,625	7,265	--	--	--	--	--	--	--
Tamarack	--	--	--	--	--	1,790	1,790	--	--	--	27,513	22,815	4,698	--	--	--	--	--	--	--
Eastern redcedar	--	--	--	--	--	--	--	--	--	--	9,688	7,511	2,177	--	--	--	--	--	--	--
Northern white-cedar	--	--	--	--	--	6,744	6,744	--	--	--	160,502	144,152	14,196	--	2,154	--	--	--	--	--
Other softwoods	--	--	--	--	--	--	--	--	--	--	1,771	1,771	--	--	--	--	--	--	--	--
Total	7,959	1,104	947	--	5,908	28,702	12,021	5,918	--	10,763	382,364	322,062	44,521	6,192	9,589	9,649	1,015	3,427	--	5,207

Species	Tree grade 1					Tree grade 2					Tree grade 3					Tie and timber				
		Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)			
	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+
Hardwoods																				
Select white oak	123,469	--	30,037	17,402	76,030	228,777	30,981	60,705	29,143	107,948	181,834	60,935	43,527	15,256	62,116	44,327	17,964	15,934	4,669	5,760
Select red oak	165,796	--	43,572	28,412	93,812	69,713	30,783	24,672	4,129	10,129	61,184	28,802	15,795	2,335	14,252	17,713	--	5,155	2,420	10,138
Other red oak	36,234	--	8,669	7,954	19,611	52,026	9,664	16,363	7,211	18,788	72,997	20,114	21,089	13,247	18,547	27,507	13,140	9,111	2,249	3,007
Select hickory	20,115	--	9,840	7,255	3,020	20,947	9,290	11,657	--	--	40,236	28,347	9,454	2,435	--	7,497	6,851	646	--	--
Other hickory	--	--	--	--	--	831	831	--	--	--	2,677	2,677	--	--	--	1,503	1,503	--	--	--
Basswood	60,705	3,070	31,587	15,449	10,599	81,873	59,812	12,012	5,692	4,357	71,877	50,201	9,094	3,684	8,898	--	--	--	--	--
Beech	15,404	--	6,738	--	8,666	28,128	15,033	5,873	2,349	4,873	19,136	6,493	4,812	--	7,831	8,787	4,705	4,082	--	--
Yellow birch	--	--	--	--	--	1,372	1,372	--	--	--	6,129	6,129	--	--	--	--	--	--	--	--
Hard maple	102,308	--	41,919	17,560	42,829	96,061	53,311	16,435	7,599	18,716	78,983	40,189	11,510	8,314	18,970	8,013	5,415	1,935	--	663
Soft maple	79,053	--	30,132	10,328	38,593	117,130	41,245	38,875	19,260	17,750	119,479	82,753	23,946	2,882	9,898	25,214	15,719	6,871	--	2,624
Elm	22,086	--	15,718	1,702	4,666	27,125	17,353	7,879	1,893	--	26,238	21,878	4,360	--	--	10,640	9,210	1,430	--	--
Black ash	6,958	--	4,833	2,125	--	14,940	3,767	6,190	--	4,983	10,414	5,779	--	--	4,635	--	--	--	--	--
White & green ash	124,252	--	56,217	31,089	36,946	133,847	82,554	40,701	1,366	9,226	122,407	88,684	18,890	10,370	4,463	23,869	14,304	5,698	3,867	--
Cottonwood	--	--	--	--	--	7,211	897	1,490	--	4,824	9,644	1,550	1,085	2,194	4,815	3,169	1,994	1,175	--	--
Willow	--	--	--	--	--	7,121	5,943	1,178	--	--	21,929	6,999	4,695	2,199	8,036	15,486	7,669	5,610	--	2,207
Hackberry	--	--	--	--	--	--	--	--	--	--	1,003	1,003	--	--	--	--	--	--	--	--
Balsam poplar	--	--	--	--	--	--	--	--	--	--	1,833	1,833	--	--	--	3,933	3,933	--	--	--
Bigtooth aspen	--	--	--	--	--	17,696	7,114	10,582	--	--	22,958	17,727	5,231	--	--	2,818	2,818	--	--	--
Quaking aspen	1,711	--	1,711	--	--	8,987	6,290	2,697	--	--	26,329	22,220	4,109	--	--	17,041	10,383	6,658	--	--
Paper birch	1,484	--	1,484	--	--	23,706	12,211	9,471	2,024	--	22,408	20,866	1,542	--	--	--	--	--	--	--
River birch	--	--	--	--	--	1,160	1,160	--	--	--	1,154	--	1,154	--	--	--	--	--	--	--
Black cherry	23,632	--	14,605	3,380	5,647	27,223	17,297	9,926	--	--	29,656	28,502	1,154	--	--	1,200	1,200	--	--	--
Black walnut	3,983	--	2,188	--	1,795	24,237	5,563	11,142	7,532	--	9,080	8,005	1,075	--	--	2,662	--	--	2,662	--
Butternut	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Other hardwoods	--	--	--	--	--	4,927	3,985	942	--	--	7,079	5,540	--	1,539	--	2,148	2,148	--	--	--
Total	787,190	3,070	299,250	142,656	342,214	995,038	416,456	288,790	88,198	201,594	966,664	557,226	182,522	64,455	162,461	223,527	118,956	64,305	15,867	24,399
All species	795,149	4,174	300,197	142,656	348,122	1,023,740	428,477	294,708	88,198	212,357	1,349,028	879,288	227,043	70,647	172,050	233,176	119,971	67,732	15,867	29,606

(Table 15 continued on next page)

(Table 15 continued)

All Units

Species	Log grade 1					Log grade 2					Log grade 3					Log grade 4				
		Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)			
	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+
Softwoods																				
Jack pine	3,115	1,744	1,371	--	--	34,205	34,205	--	--	--	906,781	840,500	62,238	4,043	--	--	--	--	--	--
Red pine	237,637	16,509	97,003	73,254	50,871	289,959	79,127	138,719	43,070	29,043	2,827,928	2,089,129	460,410	127,857	150,532	--	--	--	--	--
White pine	727,997	16,671	138,407	75,547	497,372	1,099,441	307,150	234,541	110,047	447,703	2,212,376	701,763	439,030	264,046	807,537	340,326	73,829	73,143	48,846	144,508
White spruce	--	--	--	--	--	28,789	6,214	11,160	--	11,415	871,129	587,980	210,923	46,553	25,673	--	--	--	--	--
Black spruce	2,383	--	2,383	--	--	1,631	--	1,631	--	--	181,145	152,752	15,079	9,100	4,214	--	--	--	--	--
Balsam fir	--	--	--	--	--	--	--	--	--	--	787,496	730,986	49,540	1,192	5,778	--	--	--	--	--
Hemlock	336,335	--	75,773	72,844	187,718	370,668	95,868	126,158	31,863	116,779	1,185,341	619,331	315,632	106,603	143,775	--	--	--	--	--
Tamarack	--	--	--	--	--	18,754	18,754	--	--	--	469,716	426,357	36,797	3,022	3,540	--	--	--	--	--
Eastern redcedar	--	--	--	--	--	--	--	--	--	--	14,564	12,387	2,177	--	--	--	--	--	--	--
Northern white-cedar	22,630	--	22,630	--	--	181,539	123,385	54,904	--	3,250	1,401,923	1,260,365	115,289	16,740	9,529	--	--	--	--	--
Other softwoods	--	--	--	--	--	--	--	--	--	--	29,792	22,773	4,461	2,558	--	--	--	--	--	--
Total	1,330,097	34,924	337,567	221,645	735,961	2,024,986	664,703	567,113	184,980	608,190	10,888,191	7,444,323	1,711,576	581,714	1,150,578	340,326	73,829	73,143	48,846	144,508

Species	Tree grade 1					Tree grade 2					Tree grade 3					Tie and timber				
		Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)			
	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+
Hardwoods																				
Select white oak	340,128	--	159,684	56,146	124,298	928,935	280,369	311,321	81,618	255,627	1,137,809	619,652	246,664	95,989	175,504	422,978	234,312	134,878	27,858	25,930
Select red oak	1,617,899	--	678,319	233,133	706,447	1,969,189	992,134	676,635	139,316	161,104	1,846,068	1,180,566	369,918	66,231	229,353	315,069	182,195	88,292	11,151	33,431
Other red oak	181,703	--	63,014	39,971	78,718	364,264	112,414	133,261	52,975	65,614	747,529	426,308	203,383	49,508	68,330	525,711	352,102	133,158	21,948	18,503
Select hickory	49,030	--	23,865	16,283	8,882	62,444	25,826	31,367	2,246	3,005	145,969	108,928	26,902	2,435	7,704	30,470	14,805	8,093	--	7,572
Other hickory	2,752	--	2,752	--	--	38,625	24,242	14,383	--	--	49,349	47,317	2,032	--	--	21,863	20,396	1,467	--	--
Basswood	819,258	63,897	508,408	102,899	144,054	991,166	760,100	176,448	29,875	24,743	1,074,109	877,713	94,605	23,981	77,810	37,923	24,672	8,110	5,141	--
Beech	37,639	--	17,673	--	19,966	57,694	23,717	21,696	7,408	4,873	49,534	20,687	21,016	--	7,831	26,819	10,958	4,082	2,374	9,405
Yellow birch	168,981	--	54,698	31,055	83,228	219,416	129,838	88,058	--	1,520	235,393	184,638	35,562	7,865	7,328	34,194	21,553	10,737	--	1,904
Hard maple	1,110,793	--	491,145	245,785	373,863	1,547,919	786,365	515,751	106,242	139,561	1,842,649	1,284,761	308,619	94,217	155,052	322,659	143,174	103,065	40,544	35,876
Soft maple	425,293	--	229,749	75,991	119,553	917,517	558,726	239,700	41,922	77,169	1,472,170	1,139,788	207,473	37,049	87,860	241,133	159,757	71,926	--	9,450
Elm	75,682	--	47,351	5,705	22,626	108,717	69,030	28,134	10,051	1,502	167,092	135,025	23,988	8,079	--	57,190	48,561	6,815	1,814	--
Black ash	68,460	6,927	54,319	3,941	3,273	217,605	161,966	42,101	5,101	8,437	283,596	252,896	19,675	--	11,025	22,677	13,481	9,196	--	--
White & green ash	318,706	1,119	185,324	61,575	70,688	426,437	293,198	100,274	1,366	31,599	460,920	372,734	64,682	15,801	7,703	61,836	41,748	14,283	5,805	--
Cottonwood	87,754	--	20,197	7,801	59,756	31,607	7,856	8,790	--	14,961	65,410	13,028	15,990	12,367	24,025	16,844	10,490	3,359	2,995	--
Willow	1,926	--	1,711	--	215	20,196	8,192	1,178	3,780	7,046	35,072	10,094	6,647	3,947	14,384	23,785	13,145	8,433	--	2,207
Hackberry	2,874	--	--	--	2,874	13,495	7,664	5,831	--	--	3,580	3,580	--	--	--	874	874	--	--	--
Balsam poplar	6,363	--	--	--	6,363	27,492	15,310	4,563	2,517	5,102	69,979	31,119	38,860	--	--	29,844	29,844	--	--	--
Bigtooth aspen	136,365	--	116,509	2,701	17,155	798,170	476,012	263,893	29,456	28,809	947,978	793,346	138,115	13,198	3,319	68,487	65,877	2,610	--	--
Quaking aspen	201,336	--	158,163	43,173	--	797,346	505,139	275,435	16,772	--	1,750,161	1,459,115	257,325	9,668	24,053	394,128	281,325	108,892	3,911	--
Paper birch	32,284	--	21,532	--	10,752	252,107	182,152	62,862	7,093	--	504,909	476,172	28,737	--	--	50,866	46,877	3,989	--	--
River birch	--	--	--	--	--	8,917	8,917	--	--	--	11,400	7,641	3,759	--	--	--	--	--	--	--
Black cherry	36,065	--	27,038	3,380	5,647	112,006	67,926	39,226	4,854	--	132,729	121,385	11,344	--	--	7,533	7,533	--	--	--
Black walnut	22,496	--	14,282	--	8,214	68,540	33,841	24,595	10,104	--	59,407	44,689	10,434	--	4,284	4,621	--	1,959	2,662	--
Butternut	6,278	--	6,278	--	--	33,616	22,608	4,882	2,434	3,692	32,243	13,781	18,462	--	--	--	--	--	--	--
Other hardwoods	--	--	--	--	--	18,006	12,300	5,706	--	--	51,169	41,230	8,400	1,539	--	9,917	8,526	1,391	--	--
Total	5,750,065	71,943	2,882,011	929,539	1,866,572	10,031,426	5,565,842	3,076,090	555,130	834,364	13,176,224	9,666,193	2,162,592	441,874	905,565	2,727,421	1,732,205	724,735	126,203	144,278
All species	7,080,162	102,726	3,219,578	1,151,184	2,602,533	12,056,412	6,230,545	3,643,203	740,110	1,442,554	24,064,415	17,110,516	3,874,168	1,023,588	2,056,143	3,067,747	1,806,034	797,878	175,049	288,786

[1] International 1/4-inch rule.

[2] Totals in Table 15 might not equal totals in other tables due to rounding.

Table 16.--Net volume of growing stock and sawtimber on timberland by Forest Survey Unit, county, and major species group, Wisconsin, 1996

Forest Survey Unit and County	Growing stock					Sawtimber				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
Northeastern Unit	*(In thousand cubic feet)*					*(In thousand board feet)* [1]				
Florence	387,096	50,673	84,048	140,500	111,875	1,091,170	223,391	285,854	292,899	289,026
Forest	773,657	22,202	176,882	281,616	292,957	1,939,997	107,515	595,513	596,334	640,635
Langlade	524,273	11,518	85,186	221,172	206,397	1,182,265	40,027	154,472	434,056	553,710
Lincoln	400,961	69,633	65,752	185,583	79,993	787,272	242,456	146,793	248,511	149,512
Menominee	522,128	88,855	100,396	109,005	223,872	2,030,477	464,474	445,848	312,283	807,872
Marinette	754,519	131,497	136,329	312,008	174,685	1,734,084	485,824	334,494	515,506	398,260
Oconto	512,659	82,491	97,422	218,036	114,710	1,192,780	346,835	201,340	374,748	269,857
Oneida	585,620	149,769	97,588	242,421	95,842	1,484,202	657,350	232,145	344,164	250,543
Shawano	425,743	31,745	84,812	150,298	158,888	1,018,157	116,395	141,365	265,264	495,133
Vilas	664,374	171,746	93,846	231,006	167,776	1,918,712	748,956	261,891	435,271	472,594
Total	5,551,030	810,129	1,022,261	2,091,645	1,626,995	14,379,116	3,433,223	2,799,715	3,819,036	4,327,142
Northwestern Unit										
Ashland	639,339	25,576	161,649	258,399	193,715	1,541,689	130,829	473,869	510,763	426,228
Barron	189,705	21,201	3,960	81,140	83,404	546,099	104,490	8,439	165,628	267,542
Bayfield	925,983	169,397	109,678	416,402	230,506	2,159,495	734,073	322,410	648,258	454,754
Burnett	325,373	88,692	11,797	96,122	128,762	835,548	271,995	10,035	207,200	346,318
Douglas	552,756	99,902	93,696	269,291	89,867	1,153,301	286,146	213,418	445,905	207,832
Iron	603,708	33,430	148,363	246,955	174,960	1,478,571	172,614	472,547	488,526	344,884
Polk	252,027	23,336	--	98,264	130,427	638,430	65,093	--	167,011	406,326
Price	635,033	26,251	159,742	311,308	137,732	1,422,206	117,651	512,570	499,802	292,183
Rusk	457,987	18,714	19,998	251,789	167,486	1,151,378	91,814	49,988	540,371	469,205
Sawyer	811,742	77,301	101,061	367,312	266,068	2,059,776	373,682	287,091	732,422	666,581
Taylor	445,189	10,628	50,293	277,462	106,806	963,007	49,191	132,542	523,227	258,047
Washburn	421,617	75,387	25,167	193,600	127,463	893,334	227,248	52,559	308,475	305,052
Total	6,260,459	669,815	885,404	2,868,044	1,837,196	14,842,834	2,624,826	2,535,468	5,237,588	4,444,952
Central Unit										
Adams	219,001	79,751	368	29,674	109,208	595,126	212,544	895	62,996	318,691
Chippewa	269,025	17,633	9,128	147,873	94,391	587,837	41,273	37,628	263,150	245,786
Clark	292,013	55,882	302	134,423	101,406	789,216	289,215	1,650	187,491	310,860
Eau Clair	129,301	20,631	--	32,761	75,909	288,008	29,181	--	48,051	210,776
Jackson	315,574	81,290	4,503	95,084	134,697	804,861	275,414	10,935	146,360	372,152
Juneau	237,122	67,824	--	56,815	112,483	599,613	189,913	--	99,842	309,858
Marathon	445,660	23,271	33,305	245,666	143,418	1,038,897	93,885	73,149	509,998	361,865
Marquette	79,077	20,662	4,863	11,603	41,949	218,841	56,593	6,885	13,654	141,709
Monroe	274,728	50,722	453	77,357	146,196	789,756	202,649	--	166,776	420,331
Portage	214,364	74,573	6,648	70,956	62,187	540,667	218,943	14,022	124,388	183,314
Waupaca	282,879	54,088	38,425	100,807	89,559	911,286	243,056	107,115	266,380	294,735
Waushara	149,182	53,868	9,938	22,689	62,687	366,023	150,282	16,191	38,336	161,214
Wood	203,078	36,981	3,519	85,389	77,189	537,298	121,854	--	170,830	244,614
Total	3,111,004	637,176	111452	1,111,097	1,251,279	8,067,429	2,124,802	268470	2,098,252	3,575,905

(Table 16 continued on next page)

(Table 16 continued)

Forest Survey Unit and County	Growing stock					Sawtimber				
	All species	Major species group				All species	Major species group			
		Pine	Other softwoods	Soft hardwoods	Hard hardwoods		Pine	Other softwoods	Soft hardwoods	Hard hardwoods
Southwestern Unit	*(In thousand cubic feet)*					*(In thousand board feet)* [1]				
Buffalo	239,656	2,332	--	110,282	127,042	701,459	4,118	--	262,706	434,635
Crawford	206,145	--	559	74,568	131,018	655,620	--	1,523	229,061	425,036
Dunn	192,127	23,013	477	66,911	101,726	541,270	62,597	1,378	179,502	297,793
Grant	207,378	--	254	82,257	124,867	596,445	--	1,347	178,776	416,322
Iowa	147,500	9,617	--	54,270	83,613	456,775	34,980	--	124,390	297,405
La Crosse	158,089	17,987	331	66,916	72,855	429,562	14,935	--	165,919	248,708
Lafayette	36,519	549	--	15,645	20,325	117,817	1,465	--	36,415	79,937
Pepin	60,391	2,663	--	24,451	33,277	205,675	11,091	--	81,218	113,366
Pierce	85,865	--	624	41,631	43,610	267,396	--	--	107,362	160,034
Richland	208,292	1,578	375	81,786	124,553	648,206	5,038	--	226,560	416,608
St. Croix	97,491	15,222	2,655	39,987	39,627	340,504	80,332	11,855	101,038	147,279
Sauk	252,919	7,832	167	107,615	137,305	804,450	21,406	--	271,281	511,763
Trempealeau	185,714	21,534	--	76,392	87,788	531,823	72,567	--	168,309	290,947
Vernon	235,841	16,991	--	72,183	146,667	761,323	72,694	--	185,228	503,401
Total	2,313,927	119,318	5,442	914,894	1,274,273	7,058,325	381,223	16,103	2,317,765	4,343,234
Southeastern Unit										
Brown	47,247	1,039	1,873	24,942	19,393	132,696	6,062	1,998	57,412	67,224
Calumet	21,219	--	--	8,527	12,692	73,558	--	--	19,267	54,291
Columbia	131,400	33,761	1,679	32,264	63,696	315,699	30,688	3,622	75,703	205,686
Dane	97,363	438	1,818	38,354	56,753	342,810	835	4,509	101,998	235,468
Dodge	36,735	--	--	21,796	14,939	108,923	--	--	66,892	42,031
Door	134,453	2,117	27,773	47,776	56,787	359,605	7,012	92,983	102,486	157,124
Fond du Lac	37,869	1,860	1,287	18,512	16,210	110,200	9,685	4,376	46,170	49,969
Green	41,865	1,694	--	12,186	27,985	135,423	9,307	--	26,535	99,581
Green Lake	30,009	2,187	2,134	8,465	17,223	101,500	9,136	6,307	19,398	66,659
Jefferson	32,637	--	1,892	12,164	18,581	101,318	--	4,625	25,730	70,963
Kenosha	20,483	--	97	3,689	16,697	75,172	--	--	14,210	60,962
Kewaunee	73,377	--	21,043	32,148	20,186	209,113	--	72,085	77,675	59,353
Manitowoc	95,749	11,881	4,413	48,678	30,777	293,264	35,672	14,882	138,133	104,577
Milwaukee	15,022	--	--	7,919	7,103	29,514	--	--	17,485	12,029
Outagamie	71,720	2,162	6,153	48,343	15,062	186,043	8,753	8,323	122,079	46,888
Ozaukee	24,389	--	228	7,459	16,702	74,187	--	--	10,867	63,320
Racine	27,390	354	--	6,563	20,473	101,019	--	--	13,836	87,183
Rock	48,049	4,004	175	14,675	29,195	179,317	14,736	--	36,090	128,491
Sheboygan	86,571	4,381	15,100	17,798	49,292	233,269	10,177	56,692	36,584	129,816
Walworth	49,617	930	--	15,532	33,155	185,305	3,959	--	44,956	136,390
Washington	50,666	2,047	1,445	21,399	25,775	145,981	9,793	686	43,415	92,087
Waukesha	36,083	--	366	8,811	26,906	113,795	--	1,771	7,987	104,037
Winnebago	26,822	180	--	10,997	15,645	64,992	--	--	33,817	31,175
Total	1,236,735	69,035	87,476	468,997	611,227	3,672,703	155,815	272,859	1,138,725	2,105,304
All counties	18,473,155	2,305,473	2,112,035	7,454,677	6,600,970	48,020,407	8,719,889	5,892,615	14,611,366	18,796,537

[1] International 1/4-inch rule.

Table 17.--Net volume of all live trees and salvable dead trees on timberland by class of timber and major species group, Wisconsin, 1996

(In thousand cubic feet)

	All species	Major species group			
		Pine	Other softwoods	Soft hardwoods	Hard hardwoods
Live trees					
Growing-stock trees					
Sawtimber					
Saw-log portion	7,770,065	1,454,862	989,296	2,335,586	2,990,321
Upper stem portion	2,439,289	200,414	149,370	942,676	1,146,829
Total	10,209,354	1,655,276	1,138,666	3,278,262	4,137,150
Poletimber	8,263,801	650,197	973,369	4,176,415	2,463,820
All growing-stock trees	18,473,155	2,305,473	2,112,035	7,454,677	6,600,970
Cull trees					
Short-log trees	543,893	13,872	23,983	185,525	320,513
Rough trees [1]					
Sawtimber size	617,849	22,254	40,009	234,341	321,245
Poletimber size	779,871	22,003	37,172	432,795	287,901
Total	1,397,720	44,257	77,181	667,136	609,146
Rotten trees [1]					
Sawtimber size	230,025	2,314	27,505	115,604	84,602
Poletimber size	88,120	516	8,748	56,713	22,143
Total	318,145	2,830	36,253	172,317	106,745
All cull trees	2,259,758	60,959	137,417	1,024,978	1,036,404
All live trees	20,732,913	2,366,432	2,249,452	8,479,655	7,637,374
Salvable dead trees					
Sawtimber size	257,843	32,596	42,711	129,248	53,288
Poletimber size	288,273	12,985	46,523	186,620	42,145
All salvable dead trees	546,116	45,581	89,234	315,868	95,433
All classes	21,279,029	2,412,013	2,338,686	8,795,523	7,732,807

[1]Includes all noncommercial species.

Table 18.--Net volume of all live trees and growing-stock trees on timberland by ownership class and major species group, Wisconsin, 1996

(In thousand cubic feet)

	All live trees					Growing-stock trees				
		Major species group					Major species group			
Ownership class	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
National forest	2,048,956	232,644	413,047	797,005	606,260	1,894,364	229,931	387,877	723,801	552,755
Other federal	187,686	49,510	10,578	80,376	47,222	153,354	43,826	10,140	64,320	35,068
State	956,124	173,321	104,801	399,447	278,555	854,809	168,946	99,847	348,416	237,600
County and municipal	2,621,499	365,220	334,296	1,166,041	755,942	2,360,754	355,526	310,419	1,041,488	653,321
Indian	759,778	121,735	132,542	217,599	287,902	731,404	118,460	127,833	206,099	279,012
Forest industry	1,345,194	104,035	208,548	537,135	495,476	1,254,079	101,972	195,631	500,684	455,792
Individual	11,899,639	1,199,168	939,699	4,937,386	4,823,386	10,416,354	1,168,103	881,182	4,266,256	4,100,813
Corporate	914,037	120,799	105,941	344,666	342,631	808,037	118,709	99,106	303,613	286,609
All ownerships	20,732,913	2,366,432	2,249,452	8,479,655	7,637,374	18,473,155	2,305,473	2,112,035	7,454,677	6,600,970

Table 19.--Net volume of growing stock on timberland by forest type group/local type and major species group, Wisconsin, 1996

(In thousand cubic feet)

Forest type group/ local type	All species	Major species group			
		Pine	Other softwoods	Soft hardwoods	Hard hardwoods
Softwood type groups					
White-red-jack pine					
Jack pine	308,471	268,257	6,142	21,048	13,024
Red pine	883,511	819,934	15,704	30,607	17,266
White pine	387,589	327,350	12,791	33,850	13,598
Total	1,579,571	1,415,541	34,637	85,505	43,888
Spruce-fir					
Balsam fir	269,391	19,008	182,246	61,300	6,837
White spruce	102,492	1,938	81,047	14,314	5,193
Black spruce	123,111	5,679	110,106	6,406	920
Northern white-cedar	506,747	12,616	434,726	48,124	11,281
Tamarack	209,746	18,826	181,641	8,126	1,153
Total	1,211,487	58,067	989,766	138,270	25,384
All softwood types	2,791,058	1,473,608	1,024,403	223,775	69,272
Hardwood type groups					
Oak-hickory					
Oak-hickory	3,507,736	184,188	10,854	795,653	2,517,041
Total	3,507,736	184,188	10,854	795,653	2,517,041
Elm-ash-cottonwood					
Elm-ash-soft maple	1,351,530	35,462	173,802	916,433	225,833
Total	1,351,530	35,462	173,802	916,433	225,833
Maple-beech-birch					
Maple-birch	7,822,325	351,709	635,630	3,357,050	3,477,936
Total	7,822,325	351,709	635,630	3,357,050	3,477,936
Aspen-birch					
Aspen	2,337,484	197,730	193,659	1,713,220	232,875
Paper birch	642,652	62,059	67,104	435,476	78,013
Balsam poplar	16,277	--	4,596	11,681	--
Total	2,996,413	259,789	265,359	2,160,377	310,888
All hardwood types	15,678,004	831,148	1,085,645	7,229,513	6,531,698
Nonstocked	4,093	717	1,987	1,389	--
All forest types	18,473,155	2,305,473	2,112,035	7,454,677	6,600,970

Table 20.--Average net annual growth of growing stock and sawtimber on timberland by Forest Survey Unit, county, and major species group, Wisconsin, 1983-1995

Forest Survey Unit and county	Growing stock					Sawtimber				
		Species group					Species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)					*(In thousand board feet)* [1]				
Northeastern Unit										
Florence	9,983	925	1,821	4,281	2,956	30,179	4,054	6,426	12,143	7,556
Forest	17,592	815	3,257	5,813	7,707	58,902	4,148	12,706	20,607	21,441
Langlade	13,968	541	2,142	5,355	5,930	46,223	1,540	4,541	17,358	22,784
Lincoln	14,085	2,897	1,850	6,742	2,596	37,076	12,980	5,147	12,074	6,875
Menominee	6,829	1,297	716	744	4,072	33,836	4,946	4,326	4,137	20,427
Marinette	18,674	4,134	2,520	7,328	4,692	52,598	13,658	7,180	17,634	14,126
Oconto	15,083	3,085	2,747	5,074	4,177	54,862	14,451	7,012	18,682	14,717
Oneida	17,712	5,005	1,558	8,166	2,983	54,678	23,536	5,314	15,803	10,025
Shawano	10,452	946	2,016	3,364	4,126	37,822	6,856	4,338	9,359	17,269
Vilas	14,667	5,112	2,321	3,505	3,729	59,890	22,375	8,362	15,697	13,456
Total	139,045	24,757	20,948	50,372	42,968	466,066	108,544	65,352	143,494	148,676
Northwestern Unit										
Ashland	12,061	981	2,054	4,752	4,274	46,861	4,890	12,223	16,477	13,271
Barron	5,140	658	151	2,614	1,717	20,056	3,456	511	8,381	7,708
Bayfield	25,171	4,907	3,574	10,255	6,435	90,558	27,540	12,473	29,997	20,548
Burnett	9,117	2,860	224	2,650	3,383	30,938	8,173	182	7,808	14,775
Douglas	15,269	5,197	2,962	4,403	2,707	41,290	11,373	10,746	12,221	6,950
Iron	10,812	698	1,425	4,404	4,285	42,032	3,983	8,688	16,699	12,662
Polk	6,219	529	--	2,547	3,143	22,250	2,247	--	6,462	13,541
Price	20,681	776	3,352	12,310	4,243	56,577	4,250	9,192	30,486	12,649
Rusk	12,140	924	776	6,129	4,311	40,834	399	2,157	20,818	17,460
Sawyer	20,983	2,399	2,340	9,036	7,208	82,153	14,445	11,520	29,707	26,481
Taylor	14,219	347	1,385	9,218	3,269	39,493	1,209	4,636	23,556	10,092
Washburn	11,802	2,398	528	5,465	3,411	37,448	7,405	505	15,440	14,098
Total	163,614	22,674	18,771	73,783	48,386	550,490	89,370	72,833	218,052	170,235
Central Unit										
Adams	7,177	4,089	19	924	2,145	24,610	10,881	77	3,340	10,312
Chippewa	8,595	1,209	172	4,623	2,591	28,393	4,899	1,104	12,900	9,490
Clark	8,796	1,325	11	4,616	2,844	27,000	5,971	69	8,024	12,936
Eau Clair	4,346	1,264	--	1,176	1,906	13,826	2,343	--	4,202	7,281
Jackson	8,913	3,801	127	2,430	2,555	36,688	13,975	228	8,883	13,602
Juneau	8,055	2,819	-13	2,485	2,764	29,083	9,038	--	6,464	13,581
Marathon	14,331	1,195	1,508	7,308	4,320	35,506	5,170	3,452	13,897	12,987
Marquette	2,208	1,196	14	540	458	7,782	4,593	138	1,218	1,833
Monroe	6,796	1,676	88	1,835	3,197	25,070	7,018	--	5,446	12,606
Portage	7,441	3,156	115	2,408	1,762	26,153	12,444	394	6,302	7,013
Waupaca	6,519	1,916	628	2,197	1,778	29,772	10,672	2,114	8,763	8,223
Waushara	4,891	3,093	14	785	999	19,980	13,578	273	1,705	4,424
Wood	6,151	1,676	170	2,136	2,169	26,313	7,853	--	8,998	9,462
Total	94,219	28,415	2853	33,463	29,488	330,176	108,435	7,849	90,142	123,750

(Table 20 continued on next page)

(Table 20 continued)

Forest Survey Unit and county	Growing stock					Sawtimber				
		Species group					Species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)					*(In thousand board feet)* [1]				
Southwestern Unit										
Buffalo	4,833	-43	--	2,118	2,758	20,145	122	--	7,466	12,557
Crawford	5,683	--	24	2,488	3,171	22,451	--	127	9,084	13,240
Dunn	5,301	1,042	24	1,839	2,396	25,388	8,937	43	5,018	11,390
Grant	5,036	--	-28	2,867	2,197	13,330	--	-129	6,343	7,116
Iowa	4,183	488	--	1,479	2,216	18,616	2,049	--	7,422	9,145
La Crosse	4,275	938	29	1,846	1,462	15,725	1,505	--	7,505	6,715
Lafayette	1,039	32	--	537	470	3,355	--	--	1,282	2,073
Pepin	1,345	135	--	701	509	5,745	--	--	3,218	2,527
Pierce	2,161	--	34	888	1,239	9,038	--	--	2,665	6,373
Richland	4,999	122	29	1,584	3,264	19,926	414	--	8,080	11,432
St. Croix	2,334	446	153	978	757	10,562	2,448	714	3,507	3,893
Sauk	6,229	407	23	2,892	2,907	24,776	2,249	--	9,015	13,512
Trempealeau	5,823	1,281	--	2,768	1,774	18,227	4,283	--	5,976	7,968
Vernon	5,634	741	63	1,537	3,293	20,551	3,465	--	5,398	11,688
Total	58,875	5589	351	24,522	28,413	227,835	25,472	755	81,979	119,629
Southeastern Unit										
Brown	1,348	19	87	866	376	4,594	123	15	3,113	1,343
Calumet	745	--	--	470	275	2,080	--	--	800	1,280
Columbia	4,971	1,852	251	1,353	1,515	10,696	3,578	198	2,467	4,453
Dane	1,925	--	112	857	956	5,014	--	241	1,421	3,352
Dodge	1,086	30	--	757	299	1,830	--	--	1,447	383
Door	2,933	98	543	759	1,533	11,188	241	1,405	2,671	6,871
Fond du Lac	989	54	58	393	484	2,984	291	383	674	1,636
Green	1,409	5	2	549	853	5,647	-31	14	1,749	3,915
Green Lake	897	84	82	373	358	3,724	507	229	1,021	1,967
Jefferson	1,278	--	54	539	685	3,040	--	57	690	2,293
Kenosha	414	--	72	74	268	2,390	--	--	485	1,905
Kewaunee	1,082	--	178	453	451	4,258	--	1,147	1,286	1,825
Manitowoc	3,296	784	142	1,338	1,032	6,864	980	1,110	1,883	2,891
Milwaukee	590	--	--	290	300	1,862	--	--	136	1,726
Outagamie	2,146	63	81	1,718	284	6,872	226	108	6,006	532
Ozaukee	703	--	77	207	419	566	--	--	120	446
Racine	547	26	--	132	389	985	--	--	63	922
Rock	1,022	117	9	430	466	3,951	644	--	1,446	1,861
Sheboygan	2,448	528	89	414	1,417	10,037	625	1,348	2,083	5,981
Walworth	932	59	--	441	432	4,220	251	--	1,397	2,572
Washington	1,067	65	90	294	618	5,050	504	--	1,572	2,974
Waukesha	1,520	--	22	484	1,014	4,736	--	114	1,456	3,166
Winnebago	989	24	--	115	850	3,419	--	--	1,257	2,162
Total	34,337	3,808	1,949	13,306	15,274	106,007	7,939	6,369	35,243	56,456
All counties	490,090	85,243	44,872	195,446	164,529	1,680,574	339,760	153,158	568,910	618,746

[1] International 1/4-inch rule.

Table 21.--Average annual removals of growing stock and sawtimber on timberland by Forest Survey Unit, county, and major species group, Wisconsin, 1983-1995

Forest Survey Unit and county	Growing stock					Sawtimber				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)					(In thousand board feet) [1]				
Northeastern Unit										
Florence	6,327	--	955	2,604	2,768	24,635	--	5,331	6,721	12,583
Forest	12,215	337	1,241	6,799	3,838	33,291	1,701	2,817	17,053	11,720
Langlade	10,225	--	179	6,805	3,241	25,699	--	--	15,429	10,270
Lincoln	7,878	1,456	273	5,082	1,067	16,975	1,733	219	11,928	3,095
Menominee	9,076	2,336	1,406	2,294	3,040	37,840	12,167	7,321	5,638	12,714
Marinette	8,956	481	907	6,634	934	14,971	1,159	2,699	8,962	2,151
Oconto	6,698	1,430	15	4,323	930	13,755	3,181	--	7,623	2,951
Oneida	14,424	4,250	975	8,202	997	28,239	11,123	3,598	12,219	1,299
Shawano	7,061	--	10	3,060	3,991	28,421	-	--	9,858	18,563
Vilas	8,543	3,165	816	3,477	1,085	24,640	11,592	1,999	8,154	2,895
Total	91,403	13,455	6,777	49,280	21,891	248,466	42,656	23,984	103,585	78,241
Northwestern Unit										
Ashland	7,345	344	1,635	4,610	756	16,536	1,874	3,463	8,971	2,228
Barron	2,683	54	--	1,860	769	7,783	--	--	4,830	2,953
Bayfield	15,115	2,772	822	9,343	2,178	31,011	10,379	2,668	16,121	1,843
Burnett	4,272	1,422	--	2,245	605	11,226	3,563	--	5,702	1,961
Douglas	6,180	1,314	561	3,839	466	11,452	1,678	1,369	8,251	154
Iron	4,406	--	39	2,902	1,465	11,783	--	192	7,885	3,706
Polk	3,781	--	--	2,113	1,668	12,243	--	--	4,788	7,455
Price	9,877	681	717	6,360	2,119	20,916	2,405	1,351	13,442	3,718
Rusk	12,809	61	--	10,936	1,812	26,928	320	--	19,929	6,679
Sawyer	11,931	666	496	7,609	3,160	32,065	3,554	872	19,143	8,496
Taylor	6,334	--	692	4,523	1,119	12,247	--	2,368	7,980	1,899
Washburn	7,141	157	--	5,934	1,050	15,387	670	--	14,450	267
Total	91,874	7,471	4,962	62,274	17,167	209,577	24,443	12,283	131,492	41,359
Central Unit										
Adams	3,371	2,195	--	36	1,140	7,835	4,485	--	81	3,269
Chippewa	9,250	1,622	243	3,993	3,392	29,629	7,927	577	10,279	10,846
Clark	11,249	827	--	5,172	5,250	33,752	4,142	--	9,939	19,671
Eau Clair	6,805	1,451	--	2,391	2,963	20,396	2,896	--	6,935	10,565
Jackson	10,411	2,985	--	3,401	4,025	30,864	7,687	--	10,707	12,470
Juneau	6,488	2,708	--	1,193	2,587	16,669	5,170	--	777	10,722
Marathon	6,212	68	--	5,209	935	18,627	301	--	15,670	2,656
Marquette	3,027	1,263	17	1,176	571	12,583	5,925	--	4,369	2,289
Monroe	6,354	1,023	--	999	4,332	20,170	5,298	--	1,280	13,592
Portage	6,172	387	--	3,098	2,687	21,169	1,169	--	7,917	12,083
Waupaca	2,958	347	--	1,912	699	10,222	--	--	7,049	3,173
Waushara	5,382	2,733	--	1,249	1,400	18,187	11,882	--	2,857	3,448
Wood	6,767	1,026	--	1,837	3,904	29,190	5,275	--	6,997	16,918
Total	84,446	18,635	260	31,666	33,885	269,293	62,157	577	84,857	121,702

(Table 21 continued on next page)

(Table 21 continued)

Forest Survey Unit and county	Growing stock					Sawtimber				
		Major species group					Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)					(In thousand board feet) [1]				
Southwestern Unit										
Buffalo	4,741	--	--	2,215	2,526	21,742	--	--	9,724	12,018
Crawford	8,144	--	--	2,237	5,907	27,465	--	--	6,648	20,817
Dunn	4,721	--	--	2,224	2,497	22,434	--	--	10,888	11,546
Grant	3,219	--	--	392	2,827	13,771	--	--	1,176	12,595
Iowa	1,001	--	--	445	556	4,118	--	--	1,356	2,762
La Crosse	6,292	--	--	602	5,690	26,848	--	--	2,475	24,373
Lafayette	--	--	--	--	--	--	--	--	--	--
Pepin	471	--	--	--	471	2,159	--	--	--	2,159
Pierce	728	--	--	--	728	2,847	--	--	--	2,847
Richland	5,707	--	--	2,042	3,665	22,225	--	--	6,758	15,467
St. Croix	357	--	--	97	260	420	--	--	331	89
Sauk	3,976	216	--	236	3,524	17,638	71	--	1,137	16,430
Trempealeau	4,609	193	--	816	3,600	18,327	--	--	2,971	15,356
Vernon	8,734	--	--	1,078	7,656	39,079	--	--	4,568	34,511
Total	52,700	409	--	12,384	39,907	219,073	71	--	48,032	170,970
Southeastern Unit										
Brown	306	--	--	306	--	--	--	--	--	--
Calumet	--	--	--	--	--	--	--	--	--	--
Columbia	2,545	266	--	38	2,241	9,861	1,066	--	--	8,795
Dane	1,492	--	--	560	932	5,251	--	--	1,850	3,401
Dodge	73	--	--	48	25	361	--	--	236	125
Door	1,713	--	109	981	623	4,992	--	--	3,579	1,413
Fond du Lac	31	--	--	--	31	--	--	--	--	--
Green	--	--	--	--	--	--	--	--	--	--
Green Lake	--	--	--	--	--	--	--	--	--	--
Jefferson	1,005	--	--	88	917	4,194	--	--	192	4,002
Kenosha	888	--	--	--	888	3,236	--	--	--	3,236
Kewaunee	282	--	282	--	--	512	--	512	--	--
Manitowoc	--	--	--	--	--	--	--	--	--	--
Milwaukee	--	--	--	--	--	--	--	--	--	--
Outagamie	310	--	--	145	165	987	--	--	192	795
Ozaukee	--	--	--	--	--	--	--	--	--	--
Racine	--	--	--	--	--	--	--	--	--	--
Rock	--	--	--	--	--	-	--	--	--	--
Sheboygan	619	--	--	--	619	3,067	--	--	--	3,067
Walworth	375	--	--	--	375	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--
Waukesha	629	--	--	240	389	2,535	--	--	595	1,940
Winnebago	1,498	--	--	--	1,498	4,777	--	--	--	4,777
Total	11,766	266	391	2,406	8,703	39,773	1,066	512	6,644	31,551
All counties	332,189	40,236	12,390	158,010	121,553	986,182	130,393	37,356	374,610	443,823

[1] International 1/4-inch rule.

Table 22.--Average net annual growth and average annual removals of growing stock and sawtimber on timberland by species group, Wisconsin, 1983-1995

Species group	Growing stock		Sawtimber	
	Average net annual growth	Average annual removals	Average net annual growth	Average annual removals
	(In thousand cubic feet)		*(In thousand board feet)* [1]	
Softwoods				
Jack pine	10,061	18,036	34,586	42,489
Red pine	45,877	9,101	165,242	23,704
White pine	28,976	13,099	139,224	64,200
White spruce	11,557	2,074	44,972	7,590
Black spruce	2,209	580	4,271	737
Balsam fir	7,691	5,824	25,473	12,366
Hemlock	6,639	2,702	33,245	14,669
Tamarack	5,529	369	10,979	622
Eastern redcedar	716	--	762	--
Northern white-cedar	10,161	841	32,989	1,372
Other softwoods	699	--	1,175	--
Total softwoods	130,115	52,626	492,918	167,749
Hardwoods				
Select white oak	16,698	18,670	74,424	70,644
Select red oak	43,890	53,310	209,689	217,564
Other red oak	12,372	10,443	60,449	33,268
Select hickory	3,196	355	9,741	445
Other hickory	2,980	1,197	4,241	2,596
Basswood	20,364	12,498	83,330	38,061
Beech	988	1,219	3,770	6,436
Yellow birch	1,522	3,275	7,198	12,247
Hard maple	60,360	24,754	180,208	77,840
Soft maple	64,974	22,651	145,773	54,272
Elm	6,233	10,727	3,337	35,261
Black ash	10,893	3,075	19,254	7,795
White & green ash	20,305	7,242	63,759	21,262
Cottonwood	1,315	543	4,934	1,710
Willow	217	81	750	--
Hackberry	403	39	1,362	192
Balsam poplar	729	588	2,456	2,215
Bigtooth aspen	21,440	28,365	96,838	84,373
Quaking aspen	52,728	54,123	161,113	117,912
Paper birch	7,513	21,220	27,397	23,626
River birch	348	96	2,126	--
Tupelo	8	--	--	--
Black cherry	5,924	3,345	16,603	6,768
Black walnut	1,581	186	4,557	942
Butternut	-591	596	-1,018	2,873
Other hardwoods	3,585	623	5,365	131
Total hardwoods	359,975	279,563	1,187,656	818,433
All species	490,090	332,189	1,680,574	986,182

[1]International 1/4-inch rule.

Table 23.--Average annual mortality of growing stock and sawtimber on timberland by species group, Wisconsin, 1983-1995

Species group	Growing stock average annual mortality	Sawtimber average annual mortality
	(In thousand cubic feet)	*(In thousand board feet)* [1]
Softwoods		
Jack pine	8,717	23,667
Red pine	1,008	4,306
White pine	3,870	15,922
White spruce	1,355	6,061
Black spruce	3,189	2,761
Balsam fir	17,123	30,966
Hemlock	1,446	7,334
Tamarack	3,135	7,988
Eastern redcedar	13	3
Northern white-cedar	3,207	12,680
Other softwoods	19	94
Total softwoods	43,082	111,782
Hardwoods		
Select white oak	1,961	4,834
Select red oak	10,882	33,794
Other red oak	7,845	19,109
Select hickory	653	1,135
Other hickory	938	1,010
Basswood	8,344	20,785
Beech	179	478
Yellow birch	3,258	7,335
Hard maple	6,101	11,364
Soft maple	8,920	15,699
Elm	13,722	27,514
Black ash	3,710	6,299
White & green ash	2,761	7,540
Cottonwood	353	1,474
Willow	316	1,039
Hackberry	34	68
Balsam poplar	1,384	3,220
Bigtooth aspen	9,886	25,636
Quaking aspen	40,929	64,733
Paper birch	20,358	19,592
River birch	161	436
Tupelo	1	- -
Black cherry	2,089	1,845
Black walnut	166	391
Butternut	1,127	3,147
Other hardwoods	710	1,552
Total hardwoods	146,788	280,029
All species	189,870	391,811

[1]International 1/4-inch rule.

Table 24.--Average net annual growth and average annual removals of growing stock and sawtimber on timberland by ownership class and major species group, Wisconsin, 1983-1995

Ownership class	Average net annual growth of growing stock				
		Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)				
National forest	44,125	7,082	6,982	16,311	13,750
Other federal	4,703	1,831	-52	2,170	754
State	23,307	6,662	3,006	8,176	5,463
County and municipal	65,169	14,574	4,264	28,823	17,508
Indian	10,521	1,962	1,199	1,883	5,477
Forest industry	37,720	5,647	4,021	15,247	12,805
Individual	285,803	43,403	24,388	116,132	101,880
Corporate	18,742	4,082	1,064	6,704	6,892
All ownerships	490,090	85,243	44,872	195,446	164,529

Ownership class	Average net annual removals of growing stock				
		Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)				
National forest	24,797	4,127	3,540	12,118	5,012
Other federal	2,149	1,283	- -	701	165
State	11,062	1,658	362	6,743	2,299
County and municipal	41,074	5,600	1,126	27,128	7,220
Indian	11,180	2,336	1,427	3,942	3,475
Forest industry	28,032	5,268	1,869	13,624	7,271
Individual	203,333	17,036	3,785	89,928	92,584
Corporate	10,562	2,928	281	3,826	3,527
All ownerships	332189	37,308	12,109	154,184	118,026

Ownership class	Average net annual growth of sawtimber				
		Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand board feet) [1]				
National forest	177,502	38,766	32,881	57,999	47,856
Other federal	17,946	8,174	545	7,346	1,881
State	78,737	24,950	5,780	27,714	20,293
County and municipal	207,079	52,865	22,286	71,962	59,966
Indian	50,418	8,231	6,026	9,855	26,306
Forest industry	113,357	17,567	14,281	39,610	41,899
Individual	962,142	172,327	66,183	329,878	393,754
Corporate	73,393	16,880	5,176	24,546	26,791
All ownerships	1,680,574	339,760	153,158	568,910	618,746

Ownership class	Average net annual removal of sawtimber				
		Major species group			
	All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand board feet) [1]				
National forest	53,865	14,449	8,565	24,091	6,760
Other federal	4,811	4,358	- -	- -	453
State	26,045	6,116	742	12,790	6,397
County and municipal	74,997	10,059	2,478	48,087	14,373
Indian	44,259	12,167	7,431	10,467	14,194
Forest industry	76,610	16,448	8,603	27,263	24,296
Individual	676,947	62,717	7,896	241,906	364,428
Corporate	28,648	4,079	1,641	10,006	12,922
All ownerships	986,182	130,393	37,356	374,610	443,823

[1]International 1/4-inch rule.

Table 25.--Average net annual growth and average annual removals of growing stock and sawtimber on timberland by forest type group/local type and major species group, Wisconsin, 1983-1995

Forest type group/ local type	Average net annual growth of growing stock					Average annual removals of growing stock				
	All species	Major species group				All species	Major species group			
		Pine	Other softwoods	Soft hardwoods	Hard hardwoods		Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand cubic feet)					*(In thousand cubic feet)*				
Softwood type groups										
White-red-jack pine										
Jack pine	11,444	9,722	386	918	418	4,299	3,567	29	569	134
Red pine	42,497	40,331	651	1,152	363	14,815	12,147	193	1,601	874
White pine	9,737	8,645	260	529	303	5,185	2,188	57	1,538	1,402
Total	63,678	58,698	1,297	2,599	1,084	24,299	17,902	279	3,708	2,410
Spruce-fir										
Balsam fir	6,352	640	4,695	897	120	2,613	387	1,120	1,106	--
White spruce	4,318	67	3,635	438	178	1,511	--	827	663	21
Black spruce	2,876	89	2,585	205	-3	390	--	--	390	--
Northern white-cedar	6,024	-79	5,920	16	167	216	--	145	71	--
Tamarack	4,653	637	3,721	278	17	188	19	169	--	--
Total	24,223	1,354	20,556	1,834	479	4,918	406	2,261	2,230	21
All softwood types	87,901	60,052	21,853	4,433	1,563	29,217	18,308	2,540	5,938	2,431
Hardwood type groups										
Oak-hickory										
Oak-hickory	80,407	6,866	890	17,039	55,612	65,603	8,656	--	13,531	43,416
Elm-ash-cottonwood										
Elm-ash-soft maple	34,321	975	2,123	24,574	6,649	20,930	1,525	592	14,750	4,063
Maple-beech-birch										
Maple-basswood	183,085	9,074	9,714	74,687	89,610	132,817	6,390	4,459	60,563	61,405
Aspen-birch										
Aspen	90,155	6,600	8,042	66,399	9,114	76,896	5,211	4,144	60,096	7,445
Paper birch	13,681	1,668	2,058	7,974	1,981	6,433	146	527	2,967	2,793
Balsam poplar	374	--	80	294	--	186	--	80	106	--
Total	104,210	8,268	10,180	74,667	11,095	83,515	5,357	4,751	63,169	10,238
All hardwood types	402,023	25,183	22,907	190,967	162,966	302,865	21,928	9,802	152,013	119,122
Nonstocked	166	8	112	46	--	107	--	48	59	--
All forest types	490,090	85,243	44,872	195,446	164,529	332,189	40,236	12,390	158,010	121,553

Forest type group/ local type	Average net annual growth of sawtimber					Average annual removals of sawtimber				
	All species	Major species group				All species	Major species group			
		Pine	Other softwoods	Soft hardwoods	Hard hardwoods		Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	(In thousand board feet) [1]					*(In thousand board feet)* [1]				
Softwood type groups										
White-red-jack pine										
Jack pine	29,172	25,989	614	1,648	921	10,605	9,268	149	1,188	--
Red pine	142,190	138,054	1,504	1,763	869	29,978	25,326	756	2,652	1,244
White pine	44,573	41,329	1,094	1,214	936	20,288	8,600	282	4,697	6,709
Total	215,935	205,372	3,212	4,625	2,726	60,871	43,194	1,187	8,537	7,953
Spruce-fir										
Balsam fir	15,584	3,093	10,937	1,474	80	6,183	2,092	1,993	2,098	--
White spruce	16,388	440	14,047	1,385	516	3,346	--	1,892	1,454	--
Black spruce	2,794	511	2,022	265	-4	--	--	--	--	--
Northern white-cedar	21,100	-493	21,201	29	363	131	--	131	--	--
Tamarack	12,317	3,653	7,788	561	315	620	92	528	--	--
Total	68,183	7,204	55,995	3,714	1,270	10,280	2,184	4,544	3,552	--
All softwood types	284,118	212,576	59,207	8,339	3,996	71,151	45,378	5,731	12,089	7,953
Hardwood type groups										
Oak-hickory										
Oak-hickory	341,377	31,576	1,342	62,273	246,186	219,894	24,150	--	36,864	158,880
Elm-ash-cottonwood										
Elm-ash-soft maple	102,339	5,296	10,600	65,717	20,726	63,766	6,495	928	42,918	13,425
Maple-beech-birch										
Maple-basswood	648,254	48,444	45,689	238,363	315,758	444,805	31,488	17,644	162,054	233,619
Aspen-birch										
Aspen	256,498	32,709	29,648	169,937	24,204	167,669	22,595	11,432	116,584	17,058
Paper birch	45,818	9,107	5,749	23,086	7,876	18,336	287	1,410	3,751	12,888
Balsam poplar	1,349	--	586	763	--	268	--	211	57	--
Total	303,665	41,816	35,983	193,786	32,080	186,273	22,882	13,053	120,392	29,946
All hardwood types	1,395,635	127,132	93,614	560,139	614,750	914,738	85,015	31,625	362,228	435,870
Nonstocked	821	52	337	432	--	293	--	--	293	--
All forest types	1,680,574	339,760	153,158	568,910	618,746	986,182	130,393	37,356	374,610	443,823

[1] International 1/4-inch rule.

Table 26.--All live aboveground tree biomass on timberland by ownership class, major species group, and tree biomass component, Wisconsin, 1996

(In green tons)

Ownership class and major species group	All components	Tree biomass component						
		All live 1-5 inch trees	Growing-stock trees			Non-growing-stock trees		
			Stumps	Boles	Tops and limbs	Stumps	Boles	Tops and limbs
National forest								
Pine	7,718,584	264,538	396,201	6,254,630	692,546	7,226	92,411	11,032
Other softwoods	17,589,386	2,287,720	1,028,598	10,241,534	2,686,968	109,263	989,619	245,684
Soft hardwoods	40,852,761	5,679,661	1,560,924	22,181,668	6,785,460	225,519	3,440,749	978,780
Hard hardwoods	35,182,828	2,693,115	1,556,953	20,599,542	6,699,201	197,307	2,609,618	827,092
Total	101,343,559	10,925,034	4,542,676	59,277,374	16,864,175	539,315	7,132,397	2,062,588
Other federal								
Pine	1,726,623	95,013	82,927	1,193,616	134,681	16,094	182,207	22,085
Other softwoods	406,022	30,461	26,661	258,151	67,732	2,264	15,795	4,958
Soft hardwoods	3,980,431	304,995	135,062	2,053,896	594,925	40,526	666,822	184,205
Hard hardwoods	2,842,133	199,250	122,320	1,332,510	439,685	49,117	533,768	165,483
Total	8,955,209	629,719	366,970	4,838,173	1,237,023	108,001	1,398,592	376,731
State								
Pine	5,829,314	234,080	302,863	4,596,575	522,660	10,926	144,147	18,063
Other softwoods	5,225,884	1,216,102	284,465	2,669,288	758,568	24,376	218,444	54,641
Soft hardwoods	20,872,919	2,518,254	769,071	10,991,026	3,381,143	161,662	2,374,793	676,970
Hard hardwoods	16,011,126	930,658	691,224	8,870,919	2,728,731	155,694	2,050,164	583,736
Total	47,939,243	4,899,094	2,047,623	27,127,808	7,391,102	352,658	4,787,548	1,333,410
County and municipal								
Pine	12,568,837	667,293	692,401	9,689,567	1,134,028	23,989	323,307	38,252
Other softwoods	14,751,260	2,585,918	849,059	7,940,096	2,168,185	101,324	877,938	228,740
Soft hardwoods	63,762,655	11,367,210	2,394,920	32,214,168	10,091,726	402,828	5,589,485	1,702,318
Hard hardwoods	45,263,315	3,670,406	1,979,592	24,578,453	8,033,880	408,176	4,993,444	1,599,364
Total	136,346,067	18,290,827	5,915,972	74,422,284	21,427,819	936,317	11,784,174	3,568,674

(Table 26 continued on next page)

(Table 26 continued)

	All components	Tree biomass component						
		All live 1-5 inch trees	Growing-stock trees			Non-growing-stock trees		
			Stumps	Boles	Tops and limbs	Stumps	Boles	Tops and limbs
Indian								
Pine	3,883,619	62,737	153,274	3,213,335	328,650	6,248	108,069	11,306
Other softwoods	5,592,683	376,649	320,602	3,721,767	895,098	23,696	201,999	52,872
Soft hardwoods	10,509,169	1,145,014	430,760	6,279,283	1,879,803	38,287	578,901	157,121
Hard hardwoods	15,458,806	658,325	701,236	10,453,536	3,004,249	35,696	460,676	145,088
Total	35,444,277	2,242,725	1,605,872	23,667,921	6,107,800	103,927	1,349,645	366,387
Forest industry								
Pine	3,836,785	464,439	187,940	2,776,050	321,340	6,111	71,692	9,213
Other softwoods	9,745,265	1,958,552	525,065	5,238,873	1,362,451	55,706	478,600	126,018
Soft hardwoods	27,222,207	3,766,793	1,123,515	15,198,865	4,851,314	116,140	1,671,441	494,139
Hard hardwoods	28,451,105	2,171,356	1,259,233	16,931,351	5,413,196	149,782	1,920,481	605,706
Total	69,255,362	8,361,140	3,095,753	40,145,139	11,948,301	327,739	4,142,214	1,235,076
Individual								
Pine	41,122,763	2,274,370	2,152,293	31,772,967	3,654,143	5,689	67,552	8,473
Other softwoods	44,056,731	8,851,335	2,523,294	23,476,225	6,220,395	27,239	265,101	65,835
Soft hardwoods	254,594,898	33,371,353	9,650,633	132,328,004	41,130,871	126,075	1,774,427	528,415
Hard hardwoods	272,284,260	16,053,430	11,813,199	152,244,346	46,556,226	196,005	2,541,496	741,277
Total	612,058,652	60,550,488	26,139,419	339,821,542	97,561,635	355,008	4,648,576	1,344,000
Corporate								
Pine	4,109,429	221,583	214,211	3,228,388	363,533	75,503	1,063,514	129,973
Other softwoods	4,877,521	761,807	256,708	2,843,960	656,871	249,006	2,160,973	575,503
Soft hardwoods	17,704,343	2,283,177	679,734	9,397,668	2,914,847	2,061,683	27,674,628	8,377,726
Hard hardwoods	19,692,059	1,242,671	852,727	10,766,968	3,350,915	2,551,885	33,458,963	9,606,211
Total	46,383,352	4,509,238	2,003,380	26,236,984	7,286,166	4,938,077	64,358,078	18,689,413
All ownerships								
Pine	80,795,954	4,284,053	4,182,110	62,725,128	7,151,581	151,786	2,052,899	248,397
Other softwoods	102,244,752	18,068,544	5,814,452	56,389,894	14,816,268	592,874	5,208,469	1,354,251
Soft hardwoods	439,499,383	60,436,457	16,744,619	230,644,578	71,630,089	3,172,720	43,771,246	13,099,674
Hard hardwoods	435,185,632	27,619,211	18,976,484	245,777,625	76,226,083	3,743,662	48,568,610	14,273,957
Total	1,057,725,721	110,408,265	45,717,665	595,537,225	169,824,021	7,661,042	99,601,224	28,976,279

Table 27.--Area of land by land class, forest type, and Forest Survey Unit, Wisconsin, 1983 and 1996

(In thousand acres)

Land class and forest type	All Units		Northeastern Unit		Northwestern Unit		Central Unit		Southwestern Unit		Southeastern Unit	
	1983	1996	1983	1996	1983	1996	1983	1996	1983	1996	1983	1996
Forest land												
Timberland												
Jack pine	535.2	387.4	83.5	82.9	240.2	133.6	200.9	168.0	7.9	2.5	2.7	0.4
Red pine	480.0	602.8	156.0	171.2	138.5	192.4	135.6	176.4	37.7	38.2	12.2	24.6
White pine	223.7	191.5	73.9	66.7	43.6	25.0	73.1	67.4	16.7	19.9	16.4	12.5
Balsam fir	427.7	309.4	193.3	158.3	219.8	138.6	11.9	10.7	--	--	2.7	1.8
White spruce	67.1	80.9	23.4	31.6	34.0	41.4	2.2	4.7	2.5	3.2	5.0	--
Black spruce	274.9	330.4	151.2	180.7	109.4	136.6	11.6	13.1	--	--	2.7	--
Northern white-cedar	398.1	319.3	202.8	186.9	114.3	96.3	25.5	5.3	--	--	55.5	30.8
Tamarack	216.7	301.9	59.5	95.7	113.3	146.3	36.8	45.0	--	--	7.1	14.9
Oak-hickory	2,853.4	2,885.5	140.5	166.7	426.0	514.2	928.2	981.9	1,068.1	965.8	290.6	256.9
Elm-ash-soft maple	1,281.6	1,528.8	230.2	243.1	439.2	465.1	285.3	344.0	132.3	222.7	194.6	253.9
Maple-basswood	4,097.3	5,299.7	1,309.2	1,607.5	1,499.6	1,910.8	538.9	773.0	509.9	640.0	239.7	368.4
Aspen	3,150.8	2,885.7	970.8	1,004.7	1,450.3	1,385.0	580.4	372.1	88.5	85.6	60.8	38.3
Paper birch	661.4	493.7	217.9	174.0	274.8	185.9	106.6	65.5	51.1	42.9	11.0	25.4
Balsam poplar	22.3	29.1	9.2	7.2	13.1	21.4	--	--	--	0.5	--	--
Nonstocked	69.2	56.4	7.1	8.3	37.2	21.5	11.4	15.0	5.3	5.8	8.2	5.8
Subtotal	14,759.4	15,702.5	3,828.5	4,185.5	5,153.3	5,414.1	2,948.4	3,042.1	1,920.0	2,027.1	909.2	1,033.7
Reserved forest land	260.9	242.0	52.0	54.1	114.6	92.5	30.1	24.5	38.8	53.4	25.4	17.5
Other forest land	331.0	60.7	140.8	12.1	165.8	44.2	21.5	1.3	--	3.1	2.9	--
All forest land	15,351.3	16,005.2	4,021.3	4,251.7	5,433.7	5,550.8	3,000.0	3,067.9	1,958.8	2,083.6	937.5	1,051.2
Nonforest land												
Nonforest with trees												
Cropland with trees	54.1	34.9	3.9	5.8	12.6	6.2	9.9	5.1	7.4	14.7	20.3	3.1
Improved pasture with trees	318.0	276.0	34.7	22.9	55.8	44.7	99.4	54.2	115.9	109.9	12.2	44.3
Wooded strips	45.0	96.9	5.8	9.4	8.1	7.5	20.9	11.4	10.2	40.4	--	28.2
Idle farmland with trees	110.6	117.3	21.6	27.8	16.0	17.2	60.5	19.4	12.5	21.3	--	31.6
Marsh with trees	312.6	422.3	40.1	46.7	90.6	163.4	149.4	118.7	12.7	23.6	19.8	69.9
Urban and other with trees	244.3	890.9	56.4	80.7	56.9	132.2	69.1	189.7	8.7	115.1	53.2	373.2
Windbreaks	40.8	122.1	5.0	14.9	10.6	6.3	2.6	25.7	12.2	13.8	10.4	61.4
Wooded pasture	112.1	67.1	--	2.9	30.3	2.8	32.0	21.3	47.4	34.8	2.4	5.3
Total	1,237.5	2,027.5	167.5	211.1	280.9	380.3	443.8	445.5	227.0	373.6	118.3	617.0
Nonforest without trees												
Cropland	12,656.2	11,190.4	742.6	705.0	1,259.7	959.2	2,431.1	2,286.0	2,895.2	2,698.0	5,327.6	4,542.2
Improved pasture	1,694.3	1,472.2	174.6	93.5	255.0	235.4	407.3	376.0	549.2	498.5	308.2	268.8
Idle farmland	195.2	824.8	55.8	63.1	14.6	158.1	60.3	231.1	20.5	150.1	44.0	222.4
Marsh	1,206.0	1,242.0	215.2	152.4	374.2	403.0	259.6	332.1	55.1	50.6	301.9	303.9
Other farm-farmstead	364.2	436.0	36.4	25.1	23.2	35.0	88.8	101.3	66.0	80.2	149.8	194.4
Urban and other	2,030.7	1,297.0	244.9	134.2	269.2	144.3	449.4	227.5	372.1	180.2	695.1	610.8
Noncensus water	93.1	218.5	39.9	61.3	13.1	53.1	27.4	49.8	6.6	14.1	6.1	40.2
Total	18,239.7	16,680.9	1,509.4	1,234.6	2,209.0	1,988.1	3,723.9	3,603.8	3,964.7	3,671.7	6,832.7	6,182.7
All nonforest land	19,477.2	18,708.4	1,676.9	1,445.7	2,489.9	2,368.4	4,167.7	4,049.3	4,191.7	4,045.3	6,951.0	6,799.7
Total land	34,828.5	34,713.6	5,698.2	5,697.4	7,923.6	7,919.2	7,167.7	7,117.2	6,150.5	6,128.9	7,888.5	7,850.9

[1] The 1983 and 1996 totals for all units include 93.1 thousand acres and 223.6 thousand acres, respectively, of water according to FIA standards of area classification, but defined by the Bureau of the Census as land.

Table 28.--Area of timberland by Forest Survey Unit and county, Wisconsin, 1983 and 1996

(In thousand acres)

Forest Survey Unit and county	1983	1996
Northeastern Unit		
Florence	244.0	266.3
Forest	492.7	560.9
Langlade	374.5	409.4
Lincoln	393.8	396.6
Menominee	213.1	215.9
Marinette	639.7	653.6
Oconto	347.1	382.7
Oneida	497.1	567.8
Shawano	255.2	273.2
Vilas	371.3	459.1
Total	3,828.5	4,185.5
Northwestern Unit		
Ashland	503.8	509.9
Barron	158.7	153.8
Bayfield	740.5	771.8
Burnett	317.1	308.3
Douglas	627.9	639.8
Iron	377.9	441.3
Polk	220.8	244.3
Price	550.8	595.4
Rusk	365.6	378.8
Sawyer	607.7	641.7
Taylor	354.4	368.1
Washburn	328.1	360.9
Total	5,153.3	5,414.1
Central Unit		
Adams	234.3	253.1
Chippewa	223.2	229.4
Clark	316.1	321.0
Eau Clair	154.5	162.4
Jackson	371.4	363.1
Juneau	252.1	271.7
Marathon	358.5	373.9
Marquette	94.3	95.8
Monroe	245.0	273.4
Portage	174.3	173.8
Waupaca	172.6	181.4
Waushara	145.6	127.7
Wood	206.5	215.4
Total	2,948.4	3,042.1

(Table 28 continued on next page)

(Table 28 continued)

Forest Survey Unit and county	1983	1996
Southwestern Unit		
Buffalo	187.9	185.3
Crawford	167.8	179.4
Dunn	170.0	182.2
Grant	184.5	193.9
Iowa	136.0	137.5
La Crosse	121.6	136.5
Lafayette	37.6	38.7
Pepin	53.4	57.8
Pierce	100.6	96.1
Richland	158.7	167.0
St. Croix	72.9	76.8
Sauk	181.7	182.3
Trempealeau	147.0	170.6
Vernon	200.3	223.0
Total	1,920.0	2,027.1
Southeastern Unit		
Brown	47.4	46.2
Calumet	24.7	17.7
Columbia	84.2	98.0
Dane	90.2	79.2
Dodge	27.6	39.8
Door	106.3	105.3
Fond du Lac	33.9	33.3
Green	30.9	40.4
Green Lake	21.0	30.2
Jefferson	29.0	47.3
Kenosha	10.8	23.9
Kewaunee	36.8	45.2
Manitowoc	56.5	67.0
Milwaukee	- -	8.1
Outagamie	70.7	67.2
Ozaukee	16.3	18.8
Racine	16.9	18.8
Rock	26.9	35.5
Sheboygan	51.5	62.2
Walworth	35.6	39.1
Washington	45.7	51.8
Waukesha	32.1	38.6
Winnebago	14.2	20.1
Total	909.2	1,033.7
All counties	14,759.4	15,702.5

[1] International 1/4-inch rule.

Table 29.--Area of timberland by Forest Survey Unit and stand-size class, Wisconsin, 1983 and 1996

(In thousand acres)

Forest Survey Unit and stand-size class	1983	1996
Northeastern Unit		
Sawtimber	1,025.7	901.3
Poletimber	1,909.1	1,590.9
Sapling & seedling	886.6	1,225.9
Nonstocked	7.1	8.3
Total	3,828.5	3,726.4
Northwestern Unit		
Sawtimber	1,107.6	1,309.5
Poletimber	2,705.7	2,600.1
Sapling & seedling	1,302.8	1,942.1
Nonstocked	37.2	21.5
Total	5,153.3	5,873.2
Central Unit		
Sawtimber	939.8	878.0
Poletimber	1,165.0	1,201.2
Sapling & seedling	832.2	947.9
Nonstocked	11.4	15.0
Total	2,948.4	3,042.1
Southwestern Unit		
Sawtimber	1,180.2	972.2
Poletimber	389.4	648.3
Sapling & seedling	345.1	400.8
Nonstocked	5.3	5.8
Total	1,920.0	2,027.1
Southeastern Unit		
Sawtimber	501.9	408.1
Poletimber	253.1	315.5
Sapling & seedling	146.0	304.3
Nonstocked	8.2	5.8
Total	909.2	1,033.7
All Units		
Sawtimber	4,755.2	4,469.1
Poletimber	6,422.3	6,356.0
Sapling & seedling	3,512.7	4,821.0
Nonstocked	69.2	56.4
Total	14,759.4	15,702.5

Table 30.--Area of timberland by forest type, stand-size class, ownership class, and Forest Survey Unit, Wisconsin, 1996

(In thousand acres)

Forest type and stand-size class	All owners	(Ownership class) National forest	Other federal	State	County and municipal	Indian	Forest industry	Corporate	Individual
Northeastern Unit									
Sawtimber	1,028.3	173.3	- -	50.5	69.1	146.2	120.4	56.4	412.4
Poletimber	1,786.7	266.6	- -	88.5	282.2	77.1	191.5	52.5	828.3
Sapling & seedling	1,362.2	155.3	- -	90.5	308.3	37.8	197.0	60.0	513.3
Nonstocked	8.3	2.3	- -	- -	5.5	- -	- -	- -	0.5
All stands	4,185.5	597.5	- -	229.5	665.1	261.1	508.9	168.9	1,754.5
Northwestern Unit									
Sawtimber	1,182.5	228.8	5.9	37.4	241.2	32.9	77.5	51.3	507.5
Poletimber	2,404.3	301.0	- -	110.8	549.9	37.5	190.8	107.4	1,106.9
Sapling & seedling	1,805.8	234.0	11.9	78.7	365.3	9.8	209.1	79.2	817.8
Nonstocked	21.5	2.2	- -	- -	1.1	- -	0.2	3.8	14.2
All stands	5,414.1	766.0	17.8	226.9	1,157.5	80.2	477.6	241.7	2,446.4
Central Unit									
Sawtimber	878.0	- -	16.4	14.4	47.8	- -	36.8	32.1	730.5
Poletimber	1,201.2	- -	43.0	43.1	168.0	- -	28.2	49.3	869.6
Sapling & seedling	947.9	- -	43.6	60.1	209.8	- -	33.7	58.0	542.7
Nonstocked	15.0	- -	- -	- -	1.0	- -	2.6	1.1	10.3
All stands	3,042.1	- -	103.0	117.6	426.6	- -	101.3	140.5	2,153.1
Southwestern Unit									
Sawtimber	972.2	- -	24.6	61.6	8.7	- -	3.1	44.9	829.3
Poletimber	648.3	- -	6.4	18.4	2.6	- -	- -	13.4	607.5
Sapling & seedling	400.8	- -	2.0	14.6	- -	- -	- -	3.7	380.5
Nonstocked	5.8	- -	- -	- -	- -	- -	- -	- -	5.8
All stands	2,027.1	- -	33.0	94.6	11.3	- -	3.1	62.0	1,823.1
Southeastern Unit									
Sawtimber	408.1	- -	- -	34.4	5.1	- -	8.2	20.7	339.7
Poletimber	315.5	- -	3.4	20.8	9.7	2.2	3.1	21.8	254.5
Sapling & seedling	304.3	- -	- -	20.3	7.0	- -	- -	33.6	243.4
Nonstocked	5.8	- -	- -	- -	- -	- -	- -	2.5	3.3
All stands	1,033.7	- -	3.4	75.5	21.8	2.2	11.3	78.6	840.9
All Units									
Sawtimber	4,469.1	402.1	46.9	198.3	371.9	179.1	246.0	205.4	2,819.4
Poletimber	6,356.0	567.6	52.8	281.6	1,012.4	116.8	413.6	244.4	3,666.8
Sapling & seedling	4,821.0	389.3	57.5	264.2	890.4	47.6	439.8	234.5	2,497.7
Nonstocked	56.4	4.5	- -	- -	7.6	- -	2.8	7.4	34.1
All stands	15,702.5	1,363.5	157.2	744.1	2,282.3	343.5	1,102.2	691.7	9,018.0

(Table 30 continued on next page)

(Table 30 continued)

Forest type and stand-size class	All owners	(Ownership class) National forest	Other federal	State	County and municipal	Indian	Forest industry	Corporate	Individual
Northeastern Unit									
Jack pine									
Sawtimber	24.4	0.3	--	2.5	4.5	4.0	--	--	13.1
Poletimber	39.3	3.9	--	6.4	8.1	--	3.3	2.7	14.9
Sapling & seedling	19.2	3.3	--	2.2	4.9	--	6.9	--	1.9
All stands	82.9	7.5	--	11.1	17.5	4.0	10.2	2.7	29.9
Red pine									
Sawtimber	75.4	30.1	--	2.5	4.9	--	7.2	--	30.7
Poletimber	46.7	1.9	--	9.2	14.8	3.1	2.2	1.5	14.0
Sapling & seedling	49.1	6.7	--	11.2	6.7	--	20.5	--	4.0
All stands	171.2	38.7	--	22.9	26.4	3.1	29.9	1.5	48.7
White pine									
Sawtimber	53.1	4.4	--	--	10.1	7.1	--	4.4	27.1
Poletimber	11.4	--	--	3.4	--	--	--	8.0	--
Sapling & seedling	2.2	--	--	--	--	0.5	--	--	1.7
All stands	66.7	4.4	--	3.4	10.1	7.6	--	12.4	28.8
Balsam fir									
Sawtimber	16.1	2.2	--	3.9	3.7	--	--	--	6.3
Poletimber	49.2	4.4	--	11.5	2.5	--	1.6	--	29.2
Sapling & seedling	93.0	19.0	--	10.4	16.6	0.8	16.4	--	29.8
All stands	158.3	25.6	--	25.8	22.8	0.8	18.0	--	65.3
White spruce									
Sawtimber	8.9	2.6	--	2.9	--	--	3.4	--	--
Poletimber	8.6	5.8	--	2.8	--	--	--	--	--
Sapling & seedling	14.1	7.0	--	--	3.4	--	--	--	3.7
All stands	31.6	15.4	--	5.7	3.4	--	3.4	--	3.7
Black spruce									
Sawtimber	1.4	--	--	0.6	--	--	--	0.8	--
Poletimber	33.6	11.8	--	--	0.7	3.1	--	3.0	15.0
Sapling & seedling	145.7	17.0	--	14.0	30.1	2.7	38.1	5.5	38.3
All stands	180.7	28.8	--	14.6	30.8	5.8	38.1	9.3	53.3
Northern white-cedar									
Sawtimber	30.7	4.6	--	1.8	7.3	3.7	4.7	2.6	6.0
Poletimber	119.2	17.7	--	--	24.0	9.9	8.0	1.5	58.1
Sapling & seedling	37.0	6.9	--	--	--	--	--	--	30.1
All stands	186.9	29.2	--	1.8	31.3	13.6	12.7	4.1	94.2
Tamarack									
Sawtimber	7.6	--	--	--	--	--	1.8	--	5.8
Poletimber	35.8	1.0	--	3.4	8.0	--	--	3.1	20.3
Sapling & seedling	52.3	5.3	--	2.5	7.3	2.1	10.0	--	25.1
All stands	95.7	6.3	--	5.9	15.3	2.1	11.8	3.1	51.2
Oak-hickory									
Sawtimber	69.4	1.8	--	--	12.5	19.4	--	6.6	29.1
Poletimber	75.6	8.0	--	3.9	16.2	--	--	6.4	41.1
Sapling & seedling	21.7	--	--	--	6.6	1.1	1.1	1.6	11.3
All stands	166.7	9.8	--	3.9	35.3	20.5	1.1	14.6	81.5
Elm-ash-soft maple									
Sawtimber	25.2	2.1	--	--	6.3	--	2.1	2.3	12.4
Poletimber	113.1	12.5	--	3.7	25.1	3.6	1.9	--	66.3
Sapling & seedling	104.8	9.7	--	--	6.2	4.4	5.8	3.1	75.6
All stands	243.1	24.3	--	3.7	37.6	8.0	9.8	5.4	154.3
Maple-basswood									
Sawtimber	610.5	101.2	--	25.2	19.8	108.3	97.2	34.2	224.6
Poletimber	806.3	142.2	--	18.3	105.6	33.0	135.2	14.6	357.4
Sapling & seedling	190.7	13.5	--	17.2	33.4	10.1	14.8	10.6	91.1
All stands	1,607.5	256.9	--	60.7	158.8	151.4	247.2	59.4	673.1
Aspen									
Sawtimber	85.1	21.9	--	9.9	--	3.7	4.0	4.5	41.1
Poletimber	313.5	43.0	--	7.7	70.8	15.3	30.4	4.2	142.1
Sapling & seedling	606.1	63.0	--	28.7	185.5	15.4	83.4	39.2	190.9
All stands	1,004.7	127.9	--	46.3	256.3	34.4	117.8	47.9	374.1
Paper birch									
Sawtimber	20.5	2.1	--	1.2	--	--	--	1.0	16.2
Poletimber	132.8	14.4	--	18.2	6.4	9.1	8.9	7.5	68.3
Sapling & seedling	20.7	3.7	--	4.3	7.6	0.7	--	--	4.4
All stands	174.0	20.2	--	23.7	14.0	9.8	8.9	8.5	88.9
Balsam poplar									
Sawtimber	--	--	--	--	--	--	--	--	--
Poletimber	1.6	--	--	--	--	--	--	--	1.6
Sapling & seedling	5.6	0.2	--	--	--	--	--	--	5.4
All stands	7.2	0.2	--	--	--	--	--	--	7.0
Nonstocked	8.3	2.3	--	--	5.5	--	--	--	0.5
All types									
Sawtimber	1,028.3	173.3	--	50.5	69.1	146.2	120.4	56.4	412.4
Poletimber	1,786.7	266.6	--	88.5	282.2	77.1	191.5	52.5	828.3
Sapling & seedling	1,362.2	155.3	--	90.5	308.3	37.8	197.0	60.0	513.3
Nonstocked	8.3	2.3	--	--	5.5	--	--	--	0.5
All stands	4,185.5	597.5	--	229.5	665.1	261.1	508.9	168.9	1,754.5

(Table 30 continued on next page)

(Table 30 continued)

Forest type and stand-size class	All owners	(Ownership class) National forest	Other federal	State	County and municipal	Indian	Forest industry	Corporate	Individual
Northwestern Unit									
Jack pine									
Sawtimber	38.8	6.9	--	--	5.9	--	3.4	3.6	19.0
Poletimber	61.4	3.2	--	3.6	36.5	--	3.6	--	14.5
Sapling & seedling	33.4	8.9	--	--	21.5	--	3.0	--	--
All stands	133.6	19.0	--	3.6	63.9	--	10.0	3.6	33.5
Red pine									
Sawtimber	58.1	21.9	--	3.4	19.9	3.4	--	--	9.5
Poletimber	54.8	12.2	--	9.6	13.0	--	8.2	1.1	10.7
Sapling & seedling	79.5	13.9	--	--	9.3	--	36.6	3.3	16.4
All stands	192.4	48.0	--	13.0	42.2	3.4	44.8	4.4	36.6
White pine									
Sawtimber	23.8	8.2	2.5	--	3.5	--	--	0.6	9.0
Poletimber	1.2	1.2	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--
All stands	25.0	9.4	2.5	--	3.5	--	--	0.6	9.0
Balsam fir									
Sawtimber	19.0	7.4	--	--	--	--	1.8	--	9.8
Poletimber	48.4	4.9	--	10.3	11.1	3.6	2.5	3.6	12.4
Sapling & seedling	71.2	9.1	--	--	8.3	--	3.4	3.8	46.6
All stands	138.6	21.4	--	10.3	19.4	3.6	7.7	7.4	68.8
White spruce									
Sawtimber	9.9	3.3	--	1.1	--	--	--	--	5.5
Poletimber	13.1	5.5	--	--	2.9	--	0.1	--	4.6
Sapling & seedling	18.4	3.2	--	--	--	--	9.3	--	5.9
All stands	41.4	12.0	--	1.1	2.9	--	9.4	--	16.0
Black spruce									
Sawtimber	0.4	--	--	--	0.4	--	--	--	--
Poletimber	16.9	6.3	--	0.3	3.6	--	--	--	6.7
Sapling & seedling	119.3	24.2	--	1.5	31.7	--	15.5	8.4	38.0
All stands	136.6	30.5	--	1.8	35.7	--	15.5	8.4	44.7
Northern white-cedar									
Sawtimber	57.8	16.2	--	--	24.7	--	9.1	0.7	7.1
Poletimber	34.3	8.2	--	4.3	5.0	--	--	4.3	12.5
Sapling & seedling	4.2	--	--	--	--	--	--	--	4.2
All stands	96.3	24.4	--	4.3	29.7	--	9.1	5.0	23.8
Tamarack									
Sawtimber	17.0	2.0	--	--	3.1	--	0.4	5.3	6.2
Poletimber	41.4	2.2	--	0.7	3.0	--	--	--	35.5
Sapling & seedling	87.9	13.1	--	2.8	10.2	--	2.7	2.8	56.3
All stands	146.3	17.3	--	3.5	16.3	--	3.1	8.1	98.0
Oak-hickory									
Sawtimber	161.8	1.6	--	5.1	30.0	3.4	6.0	9.2	106.5
Poletimber	231.8	12.8	--	4.4	62.6	--	5.1	2.6	144.3
Sapling & seedling	120.6	3.5	--	18.5	21.4	--	35.6	3.0	38.6
All stands	514.2	17.9	--	28.0	114.0	3.4	46.7	14.8	289.4
Elm-ash-soft maple									
Sawtimber	41.5	7.2	--	6.1	16.7	--	--	--	11.5
Poletimber	247.7	30.3	--	12.6	60.7	4.0	23.6	11.8	104.7
Sapling & seedling	175.9	21.7	3.0	6.4	25.9	1.9	10.0	3.9	103.1
All stands	465.1	59.2	3.0	25.1	103.3	5.9	33.6	15.7	219.3
Maple-basswood									
Sawtimber	573.9	124.9	3.4	18.1	104.4	19.0	53.9	18.7	231.5
Poletimber	1,003.2	135.7	--	24.1	226.2	18.3	108.8	53.3	436.8
Sapling & seedling	333.7	24.0	5.5	13.4	52.9	--	21.7	25.9	190.3
All stands	1,910.8	284.6	8.9	55.6	383.5	37.3	184.4	97.9	858.6
Aspen									
Sawtimber	159.9	26.0	--	3.6	26.2	7.1	2.9	13.2	80.9
Poletimber	514.9	58.2	--	31.2	93.2	7.7	29.2	24.8	270.6
Sapling & seedling	710.2	106.5	3.4	32.6	175.4	7.9	71.3	28.1	285.0
All stands	1,385.0	190.7	3.4	67.4	294.8	22.7	103.4	66.1	636.5
Paper birch									
Sawtimber	14.2	3.2	--	--	--	--	--	--	11.0
Poletimber	129.1	20.3	--	9.7	26.3	3.9	9.7	5.9	53.3
Sapling & seedling	42.6	5.9	--	3.3	5.0	--	--	--	28.4
All stands	185.9	29.4	--	13.0	31.3	3.9	9.7	5.9	92.7
Balsam poplar									
Sawtimber	6.4	--	--	--	6.4	--	--	--	--
Poletimber	6.1	--	--	--	5.8	--	--	--	0.3
Sapling & seedling	8.9	--	--	0.2	3.7	--	--	--	5.0
All stands	21.4	--	--	0.2	15.9	--	--	--	5.3
Nonstocked	21.5	2.2	--	--	1.1	--	0.2	3.8	14.2
All types									
Sawtimber	1,182.5	228.8	5.9	37.4	241.2	32.9	77.5	51.3	507.5
Poletimber	2,404.3	301.0	--	110.8	549.9	37.5	190.8	107.4	1,106.9
Sapling & seedling	1,805.8	234.0	11.9	78.7	365.3	9.8	209.1	79.2	817.8
Nonstocked	21.5	2.2	--	--	1.1	--	0.2	3.8	14.2
All stands	5,414.1	766.0	17.8	226.9	1,157.5	80.2	477.6	241.7	2,446.4

(Table 30 continued on next page)

(Table 30 continued)

Forest type and stand-size class	All owners	(Ownership class) National forest	Other federal	State	County and municipal	Indian	Forest industry	Corporate	Individual
Central Unit									
Jack pine									
Sawtimber	21.5	--	--	--	--	--	--	7.5	14.0
Poletimber	66.3	--	7.5	--	2.9	--	3.2	4.5	48.2
Sapling & seedling	80.2	--	4.0	3.4	24.8	--	8.0	3.5	36.5
All stands	168.0	--	11.5	3.4	27.7	--	11.2	15.5	98.7
Red pine									
Sawtimber	28.3	--	0.4	--	5.3	--	--	--	22.6
Poletimber	96.2	--	--	5.1	24.1	--	6.0	15.6	45.4
Sapling & seedling	51.9	--	5.3	2.4	7.4	--	12.1	3.4	21.3
All stands	176.4	--	5.7	7.5	36.8	--	18.1	19.0	89.3
White pine									
Sawtimber	36.2	--	--	--	2.6	--	2.6	2.4	28.6
Poletimber	9.5	--	--	--	2.6	--	--	--	6.9
Sapling & seedling	21.7	--	--	--	8.3	--	--	2.5	10.9
All stands	67.4	--	--	--	13.5	--	2.6	4.9	46.4
Balsam fir									
Sawtimber	--	--	--	--	--	--	--	--	--
Poletimber	3.2	--	--	--	--	--	--	--	3.2
Sapling & seedling	7.5	--	--	--	--	--	--	--	7.5
All stands	10.7	--	--	--	--	--	--	--	10.7
White spruce									
Sawtimber	--	--	--	--	--	--	--	--	--
Poletimber	1.7	--	--	--	1.6	--	--	--	0.1
Sapling & seedling	3.0	--	--	--	--	--	--	--	3.0
All stands	4.7	--	--	--	1.6	--	--	--	3.1
Black spruce									
Sawtimber	--	--	--	--	--	--	--	--	--
Poletimber	-	--	--	--	--	--	--	--	--
Sapling & seedling	13.1	--	--	6.2	3.4	--	--	--	3.5
All stands	13.1	--	--	6.2	3.4	--	--	--	3.5
Northern white-cedar									
Sawtimber	2.1	--	--	--	--	--	--	--	2.1
Poletimber	--	--	--	--	--	--	--	--	--
Sapling & seedling	3.2	--	--	--	--	--	--	--	3.2
All stands	5.3	--	--	--	--	--	--	--	5.3
Tamarack									
Sawtimber	--	--	--	--	--	--	--	--	--
Poletimber	10.9	--	--	--	--	--	--	--	10.9
Sapling & seedling	34.1	--	--	11.6	0.6	--	--	8.6	13.3
All stands	45.0	--	--	11.6	0.6	--	--	8.6	24.2
Oak-hickory									
Sawtimber	430.1	--	9.7	6.2	24.1	--	15.2	7.3	367.6
Poletimber	370.7	--	25.4	17.5	47.5	--	8.6	17.9	253.8
Sapling & seedling	181.1	--	12.9	3.1	40.7	--	--	15.3	109.1
All stands	981.9	--	48.0	26.8	112.3	--	23.8	40.5	730.5
Elm-ash-soft maple									
Sawtimber	73.1	--	--	--	3.1	--	6.5	7.0	56.5
Poletimber	144.6	--	2.7	3.3	5.3	--	3.7	3.6	126.0
Sapling & seedling	126.3	--	9.5	12.7	27.8	--	10.0	6.4	59.9
All stands	344.0	--	12.2	16.0	36.2	--	20.2	17.0	242.4
Maple-basswood									
Sawtimber	254.9	--	6.3	8.2	9.4	--	12.5	4.5	214.0
Poletimber	336.8	--	4.7	11.4	32.6	--	4.5	6.2	277.4
Sapling & seedling	181.3	--	2.8	3.8	27.2	--	--	6.9	140.6
All stands	773.0	--	13.8	23.4	69.2	--	17.0	17.6	632.0
Aspen									
Sawtimber	22.0	--	--	--	3.3	--	--	3.4	15.3
Poletimber	135.8	--	2.7	5.8	51.4	--	--	1.4	74.5
Sapling & seedling	214.3	--	9.1	16.9	63.5	--	3.6	11.4	109.8
All stands	372.1	--	11.8	22.7	118.2	--	3.6	16.2	199.6
Paper birch									
Sawtimber	9.8	--	--	--	--	--	--	--	9.8
Poletimber	25.5	--	--	--	--	--	2.2	0.1	23.2
Sapling & seedling	30.2	--	--	--	6.1	--	--	--	24.1
All stands	65.5	--	--	--	6.1	--	2.2	0.1	57.1
Nonstocked	15.0	--	--	--	1.0	--	2.6	1.1	10.3
All types									
Sawtimber	878.0	--	16.4	14.4	47.8	--	36.8	32.1	730.5
Poletimber	1,201.2	--	43.0	43.1	168.0	--	28.2	49.3	869.6
Sapling & seedling	947.9	--	43.6	60.1	209.8	--	33.7	58.0	542.7
Nonstocked	15.0	--	--	--	1.0	--	2.6	1.1	10.3
All stands	3,042.1	--	103.0	117.6	426.6	--	101.3	140.5	2,153.1

(Table 30 continued on next page)

(Table 30 continued)

Forest type and stand-size class	All owners	(Ownership class) National forest	Other federal	State	County and municipal	Indian	Forest industry	Corporate	Individual
Southwestern Unit									
Jack pine									
Sawtimber	--	--	--	--	--	--	--	--	--
Poletimber	2.5	--	--	2.4	--	--	--	--	0.1
Sapling & seedling	--	--	--	--	--	--	--	--	--
All stands	2.5	--	--	2.4	--	--	--	--	0.1
Red pine									
Sawtimber	7.1	--	1.4	--	2.4	--	--	--	3.3
Poletimber	26.2	--	--	--	--	--	--	--	26.2
Sapling & seedling	4.9	--	--	--	--	--	--	--	4.9
All stands	38.2	--	1.4	--	2.4	--	--	--	34.4
White pine									
Sawtimber	9.6	--	4.6	--	--	--	--	--	5.0
Poletimber	5.0	--	3.7	--	--	--	--	--	1.3
Sapling & seedling	5.3	--	0.1	--	--	--	--	--	5.2
All stands	19.9	--	8.4	--	--	--	--	--	11.5
White spruce									
Sawtimber	1.5	--	--	--	--	--	--	--	1.5
Poletimber	--	--	--	--	--	--	--	--	--
Sapling & seedling	1.7	--	--	--	--	--	--	--	1.7
All stands	3.2	--	--	--	--	--	--	--	3.2
Oak-hickory									
Sawtimber	567.4	--	--	27.6	3.8	--	--	36.2	499.8
Poletimber	307.4	--	--	9.9	--	--	--	4.1	293.4
Sapling & seedling	91.0	--	0.9	0.4	--	--	--	--	89.7
All stands	965.8	--	0.9	37.9	3.8	--	--	40.3	882.9
Elm-ash-soft maple									
Sawtimber	70.9	--	16.5	17.8	--	--	--	2.4	34.2
Poletimber	77.8	--	2.7	6.1	2.6	--	--	--	66.4
Sapling & seedling	74.0	--	0.1	6.0	--	--	--	--	67.9
All stands	222.7	--	19.3	29.9	2.6	--	--	2.4	168.5
Maple-basswood									
Sawtimber	283.0	--	2.1	12.2	2.5	--	3.1	6.3	256.8
Poletimber	183.4	--	--	--	--	--	--	9.3	174.1
Sapling & seedling	173.6	--	0.9	3.3	--	--	--	3.7	165.7
All stands	640.0	--	3.0	15.5	2.5	--	3.1	19.3	596.6
Aspen									
Sawtimber	21.0	--	--	4.0	--	--	--	--	17.0
Poletimber	29.2	--	--	--	--	--	--	--	29.2
Sapling & seedling	35.4	--	--	3.3	--	--	--	--	32.1
All stands	85.6	--	--	7.3	--	--	--	--	78.3
Paper birch									
Sawtimber	11.7	--	--	--	--	--	--	--	11.7
Poletimber	16.3	--	--	--	--	--	--	--	16.3
Sapling & seedling	14.9	--	--	1.6	--	--	--	--	13.3
All stands	42.9	--	--	1.6	--	--	--	--	41.3
Balsam poplar									
Sawtimber	--	--	--	--	--	--	--	--	--
Poletimber	0.5	--	--	--	--	--	--	--	0.5
Sapling & seedling	--	--	--	--	--	--	--	--	--
All stands	0.5	--	--	--	--	--	--	--	0.5
Nonstocked	5.8	--	--	--	--	--	--	--	5.8
All types									
Sawtimber	972.2	--	24.6	61.6	8.7	--	3.1	44.9	829.3
Poletimber	648.3	--	6.4	18.4	2.6	--	--	13.4	607.5
Sapling & seedling	400.8	--	2.0	14.6	--	--	--	3.7	380.5
Nonstocked	5.8	--	--	--	--	--	--	--	5.8
All stands	2,027.1	--	33.0	94.6	11.3	--	3.1	62.0	1,823.1

(Table 30 continued on next page)

(Table 30 continued)

Forest type and stand-size class	All owners	(Ownership class) National forest	Other federal	State	County and municipal	Indian	Forest industry	Corporate	Individual
Southeastern Unit									
Jack pine									
Sawtimber	--	--	--	--	--	--	--	--	--
Poletimber	0.4	--	--	--	--	--	--	--	0.4
Sapling & seedling	--	--	--	--	--	--	--	--	--
All stands	0.4	--	--	--	--	--	--	--	0.4
Red pine									
Sawtimber	5.1	--	--	4.4	--	--	--	--	0.7
Poletimber	19.0	--	--	--	--	--	--	--	19.0
Sapling & seedling	0.5	--	--	--	--	--	--	--	0.5
All stands	24.6	--	--	4.4	--	--	--	--	20.2
White pine									
Sawtimber	3.4	--	--	0.3	--	--	--	--	3.1
Poletimber	1.5	--	--	--	1.5	--	--	--	--
Sapling & seedling	7.6	--	--	--	--	--	--	--	7.6
All stands	12.5	--	--	0.3	1.5	--	--	--	10.7
Balsam fir									
Sawtimber	--	--	--	--	--	--	--	--	--
Poletimber	1.4	--	--	1.4	--	--	--	--	--
Sapling & seedling	0.4	--	--	--	--	--	--	--	0.4
All stands	1.8	--	--	1.4	--	--	--	--	0.4
Northern white-cedar									
Sawtimber	9.7	--	--	--	--	--	--	2.1	7.6
Poletimber	9.2	--	--	--	--	--	--	2.1	7.1
Sapling & seedling	11.9	--	--	--	--	--	--	0.6	11.3
All stands	30.8	--	--	--	--	--	--	4.8	26.0
Tamarack									
Sawtimber	2.2	--	--	--	0.8	--	--	--	1.4
Poletimber	1.6	--	--	0.6	--	--	--	--	1.0
Sapling & seedling	11.1	--	--	--	--	--	--	2.5	8.6
All stands	14.9	--	--	0.6	0.8	--	--	2.5	11.0
Oak-hickory									
Sawtimber	157.6	--	--	19.8	1.8	--	--	4.2	131.8
Poletimber	40.6	--	--	5.1	--	--	3.1	6.3	26.1
Sapling & seedling	58.7	--	--	4.9	--	--	--	10.8	43.0
All stands	256.9	--	--	29.8	1.8	--	3.1	21.3	200.9
Elm-ash-soft maple									
Sawtimber	88.8	--	--	9.9	--	--	5.8	5.5	67.6
Poletimber	74.0	--	--	5.1	2.1	--	--	5.1	61.7
Sapling & seedling	91.1	--	--	10.3	4.4	--	--	5.0	71.4
All stands	253.9	--	--	25.3	6.5	--	5.8	15.6	200.7
Maple-basswood									
Sawtimber	132.3	--	--	--	2.5	--	2.4	5.9	121.5
Poletimber	134.6	--	3.4	7.8	4.0	--	--	4.1	115.3
Sapling & seedling	101.5	--	--	2.6	2.6	--	--	14.7	81.6
All stands	368.4	--	3.4	10.4	9.1	--	2.4	24.7	318.4
Aspen									
Sawtimber	3.6	--	--	--	--	--	--	--	3.6
Poletimber	18.9	--	--	0.8	2.1	--	--	--	16.0
Sapling & seedling	15.8	--	--	--	--	--	--	--	15.8
All stands	38.3	--	--	0.8	2.1	--	--	--	35.4
Paper birch									
Sawtimber	5.4	--	--	--	--	--	--	3.0	2.4
Poletimber	14.3	--	--	--	--	2.2	--	4.2	7.9
Sapling & seedling	5.7	--	--	2.5	--	--	--	--	3.2
All stands	25.4	--	--	2.5	--	2.2	--	7.2	13.5
Nonstocked	5.8	--	--	--	--	--	--	2.5	3.3
All types									
Sawtimber	408.1	--	--	34.4	5.1	--	8.2	20.7	339.7
Poletimber	315.5	--	3.4	20.8	9.7	2.2	3.1	21.8	254.5
Sapling & seedling	304.3	--	--	20.3	7.0	--	--	33.6	243.4
Nonstocked	5.8	--	--	--	--	--	--	2.5	3.3
All stands	1,033.7	--	3.4	75.5	21.8	2.2	11.3	78.6	840.9

Table 31.--Area of timberland by forest type, stand-size class, and potential productivity class, Wisconsin, 1996

(In thousand acres)

Forest type and stand-size class	All classes	Potential productivity class (cubic feet of growth per year per acre)					
		225+	165-224	120-164	85-119	50-84	20-49
Jack pine							
Sawtimber	84.7	--	--	1.3	28.8	51.6	3.0
Poletimber	169.9	--	2.4	4.0	12.0	110.2	41.3
Sapling & seedling	132.8	--	--	1.8	9.9	58.4	62.7
All stands	387.4	--	2.4	7.1	50.7	220.2	107.0
Red pine							
Sawtimber	174.0	4.1	3.0	60.5	87.1	15.3	4.0
Poletimber	242.9	11.0	2.2	134.4	79.0	15.2	1.1
Sapling & seedling	185.9	--	--	31.2	77.7	41.1	35.9
All stands	602.8	15.1	5.2	226.1	243.8	71.6	41.0
White pine							
Sawtimber	126.1	2.3	0.1	39.5	53.8	20.6	9.8
Poletimber	28.6	--	--	17.1	4.6	6.9	--
Sapling & seedling	36.8	5.2	--	7.2	16.1	5.8	2.5
All stands	191.5	7.5	0.1	63.8	74.5	33.3	12.3
Balsam fir							
Sawtimber	35.1	--	--	14.5	18.1	2.4	0.1
Poletimber	102.2	--	1.3	37.2	48.4	14.7	0.6
Sapling & seedling	172.1	--	3.6	61.1	40.2	33.2	34.0
All stands	309.4	--	4.9	112.8	106.7	50.3	34.7
White spruce							
Sawtimber	20.3	--	--	--	13.5	6.8	--
Poletimber	23.4	--	2.6	2.0	5.4	13.4	--
Sapling & seedling	37.2	--	3.7	2.4	12.5	13.7	4.9
All stands	80.9	--	6.3	4.4	31.4	33.9	4.9
Black spruce							
Sawtimber	1.8	--	--	--	1.2	0.6	--
Poletimber	50.5	--	--	--	4.2	21.3	25.0
Sapling & seedling	278.1	--	--	--	7.5	28.3	242.3
All stands	330.4	--	--	--	12.9	50.2	267.3
Northern white-cedar							
Sawtimber	100.3	--	--	--	3.1	43.7	53.5
Poletimber	162.7	--	--	--	8.2	51.8	102.7
Sapling & seedling	56.3	--	0.6	--	3.2	19.4	33.1
All stands	319.3	--	0.6	--	14.5	114.9	189.3
Tamarack							
Sawtimber	26.8	--	--	--	--	18.9	7.9
Poletimber	89.7	--	--	--	4.9	32.4	52.4
Sapling & seedling	185.4	--	--	0.3	6.8	49.4	128.9
All stands	301.9	--	--	0.3	11.7	100.7	189.2

(Table 31 continued on next page)

(Table 31 continued)

Forest type and stand-size class	All classes	Potential productivity class (cubic feet of growth per acre pre year)					
		225+	165-224	120-164	85-119	50-84	20-49
Oak-hickory							
Sawtimber	1,386.3	--	30.0	35.9	395.1	728.5	196.8
Poletimber	1,026.1	--	21.0	9.9	194.5	604.0	196.7
Sapling & seedling	473.1	--	2.1	10.7	68.5	251.1	140.7
All stands	2,885.5	--	53.1	56.5	658.1	1,583.6	534.2
Elm-ash-soft maple							
Sawtimber	299.5	--	--	12.7	76.6	89.7	120.5
Poletimber	657.2	--	--	11.1	63.7	175.5	406.9
Sapling & seedling	572.1	--	--	14.8	65.5	177.8	314.0
All stands	1,528.8	--	--	38.6	205.8	443.0	841.4
Maple-basswood							
Sawtimber	1,854.6	--	37.0	29.9	529.2	951.2	307.3
Poletimber	2,464.3	--	42.2	41.0	550.4	1,340.9	489.8
Sapling & seedling	980.8	--	27.9	28.4	210.9	476.5	237.1
All stands	5,299.7	--	107.1	99.3	1,290.5	2,768.6	1,034.2
Aspen							
Sawtimber	291.6	--	--	10.9	154.5	120.0	6.2
Poletimber	1,012.3	--	11.0	55.4	448.7	447.8	49.4
Sapling & seedling	1,581.8	--	21.2	89.9	616.4	705.5	148.8
All stands	2,885.7	--	32.2	156.2	1,219.6	1,273.3	204.4
Paper birch							
Sawtimber	61.6	--	--	3.3	7.2	38.0	13.1
Poletimber	318.0	--	2.3	4.4	51.7	154.1	105.5
Sapling & seedling	114.1	--	1.4	1.1	15.3	51.2	45.1
All stands	493.7	--	3.7	8.8	74.2	243.3	163.7
Balsam poplar							
Sawtimber	6.4	--	--	--	3.4	3.0	--
Poletimber	8.2	--	--	--	7.9	0.3	--
Sapling & seedling	14.5	--	--	--	2.7	8.7	3.1
All stands	29.1	--	--	--	14.0	12.0	3.1
Nonstocked	56.4	--	1.4	0.7	14.6	14.8	24.9
All forest types							
Sawtimber	4,469.1	6.4	70.1	208.5	1,371.6	2,090.3	722.2
Poletimber	6,356.0	11	85.0	316.5	1,483.6	2,988.5	1,471.4
Sapling & seedling	4,821.0	5.2	60.5	248.9	1,153.2	1,920.1	1,433.1
Nonstocked	56.4	--	1.4	0.7	14.6	14.8	24.9
All stands	15,702.5	22.6	217.0	774.6	4,023.0	7,013.7	3,651.6

Table 32.--Area of timberland by forest type, basal-area class, and stand-size class, Wisconsin, 1996

(In thousand acres)

Forest type and stand-size class	All classes	Basal-area class (square feet per acre) 0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Jack pine															
Sawtimber	84.7	0.1	--	0.6	--	--	9.9	2.8	13.3	13.8	22.2	16.7	5.3	--	--
Poletimber	169.9	1.9	1.8	3.0	10.9	21.1	21.6	18.7	37.1	7.0	15.9	12.3	14.7	2.0	1.9
Sapling and seedling	132.8	44.7	11.1	13.8	17.7	8.9	22.3	9.9	2.8	--	1.6	--	--	--	--
All stands	387.4	46.7	12.9	17.4	28.6	30.0	53.8	31.4	53.2	20.8	39.7	29.0	20.0	2.0	1.9
Red pine															
Sawtimber	174.0	1.2	1.2	7.5	2.4	6.6	8.6	6.6	10.5	6.3	17.9	24.5	46.7	22.4	11.6
Poletimber	242.9	2.5	2.5	0.8	3.2	5.6	17.3	22.3	15.1	13.2	15.8	42.1	58.2	15.8	28.5
Sapling and seedling	185.9	123.6	17.3	7.8	--	8.5	8.1	12.9	4.9	0.6	2.2	--	--	--	--
All stands	602.8	127.3	21.0	16.1	5.6	20.7	34.0	41.8	30.5	20.1	35.9	66.6	104.9	38.2	40.1
White pine															
Sawtimber	126.1	1.5	--	0.3	2.3	2.5	1.6	4.2	14.6	3.9	8.3	26.5	20.6	26.3	13.5
Poletimber	28.6	--	--	--	--	--	10.5	6.1	--	1.5	--	3.4	4.6	2.5	--
Sapling and seedling	36.8	13.3	5.4	5.5	6.1	3.1	--	--	3.4	--	--	--	--	--	--
All stands	191.5	14.8	5.4	5.8	8.4	5.6	12.1	10.3	18.0	5.4	8.3	29.9	25.2	28.8	13.5
Balsam fir															
Sawtimber	35.1	0.2	0.9	--	0.9	4.0	--	14.5	--	1.2	3.9	5.6	3.9	--	--
Poletimber	102.2	--	0.9	0.3	--	2.0	16.4	3.6	5.9	10.3	3.5	16.8	20.7	13.8	8.0
Sapling and seedling	172.1	33.0	1.9	19.1	30.6	7.8	19.7	19.1	14.2	10.9	6.4	5.9	--	3.5	--
All stands	309.4	33.2	3.7	19.4	31.5	13.8	36.1	37.2	20.1	22.4	13.8	28.3	24.6	17.3	8.0
White spruce															
Sawtimber	20.3	--	0.5	--	2.0	4.5	--	--	--	--	3.4	3.0	4.0	--	2.9
Poletimber	23.4	0.2	--	2.6	2.0	4.0	2.0	1.4	--	2.9	--	--	1.4	3.4	3.5
Sapling and seedling	37.2	18.5	1.0	0.8	3.2	2.1	1.3	4.5	--	--	--	3.0	2.8	--	--
All stands	80.9	18.7	1.5	3.4	7.2	10.6	3.3	5.9	--	2.9	3.4	6.0	8.2	3.4	6.4
Black spruce															
Sawtimber	1.8	--	1.0	--	0.8	--	--	--	--	--	--	--	--	--	--
Poletimber	50.5	0.8	1.3	--	7.7	3.4	0.5	5.2	3.1	5.0	14.9	3.0	4.0	1.6	--
Sapling and seedling	278.1	27.3	32.6	45.4	31.8	40.2	19.5	20.6	18.5	20.4	10.9	10.9	--	--	--
All stands	330.4	28.1	34.9	45.4	40.3	43.6	20.0	25.8	21.6	25.4	25.8	13.9	4.0	1.6	--
Northern white-cedar															
Sawtimber	100.3	0.4	0.8	0.9	--	1.3	5.2	3.6	6.5	6.7	5.9	7.9	16.4	23.5	21.2
Poletimber	162.7	--	--	0.7	--	2.1	3.0	4.0	5.0	2.5	5.3	5.3	46.3	27.6	60.9
Sapling and seedling	56.3	0.6	3.3	1.7	1.4	1.6	1.6	3.8	--	8.0	3.2	--	15.7	15.4	--
All stands	319.3	1.0	4.1	3.3	1.4	5.0	9.8	11.4	11.5	17.2	14.4	13.2	80.8	66.5	82.1
Tamarack															
Sawtimber	26.8	--	1.8	3.7	4.3	2.5	--	3.1	1.9	1.8	2.4	--	5.3	--	--
Poletimber	89.7	0.3	1.6	1.0	2.0	5.0	11.5	4.7	18.6	5.8	3.1	21.1	15.0	--	--
Sapling and seedling	185.4	21.8	40.4	14.8	32.4	18.7	16.0	18.0	7.2	2.6	6.1	5.1	2.3	--	--
All stands	301.9	22.1	43.8	19.5	38.7	26.2	27.5	25.8	27.7	10.2	11.6	26.2	22.6	--	--

(Table 32 continued on next page)

(Table 32 continued)

Forest type and stand-size class	All classes	Basal-area class (square feet per acre)													
		0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
Oak-hickory															
Sawtimber	1,386.3	6.4	10.1	28.4	51.2	60.0	79.8	91.0	150.9	152.0	152.7	281.6	251.4	57.9	12.9
Poletimber	1,026.1	5.6	9.9	5.6	19.5	40.3	79.1	104.4	181.6	115.0	142.5	161.4	128.0	33.2	--
Sapling and seedling	473.1	107.7	66.0	68.6	82.5	39.4	42.0	31.4	3.9	15.9	2.6	7.1	2.7	--	3.3
All stands	2,885.5	119.7	86.0	102.6	153.2	139.7	200.9	226.8	336.4	282.9	297.8	450.1	382.1	91.1	16.2
Elm-ash-soft maple															
Sawtimber	299.5	3.4	6.8	12.5	19.0	23.2	26.5	18.4	30.6	32.6	22.1	43.6	37.8	15.8	7.2
Poletimber	657.2	6.4	23.3	25.1	40.3	51.8	43.2	56.5	55.6	67.4	66.7	106.6	95.7	18.6	--
Sapling and seedling	572.1	80.2	105.9	75.1	82.0	73.7	38.0	42.8	18.1	12.8	13.9	23.2	--	2.3	4.1
All stands	1,528.8	90.0	136.0	112.7	141.3	148.7	107.7	117.7	104.3	112.8	102.7	173.4	133.5	36.7	11.3
Maple-basswood															
Sawtimber	1,854.6	5.5	20.0	21.3	16.3	45.1	81.6	82.2	135.6	164.2	172.2	380.5	453.2	199.3	77.6
Poletimber	2,464.3	4.6	14.2	38.6	44.1	69.6	127.3	182.3	243.2	286.7	270.7	549.5	485.4	134.0	14.1
Sapling and seedling	980.8	168.6	112.6	110.9	176.5	103.5	66.3	89.1	64.7	29.9	21.6	27.7	7.2	--	2.2
All stands	5,299.7	178.7	146.8	170.8	236.9	218.2	275.2	353.6	443.5	480.8	464.5	957.7	945.8	333.3	93.9
Aspen															
Sawtimber	291.6	0.4	3.0	2.9	11.2	23.7	18.6	10.1	35.3	46.0	21.4	55.5	51.7	9.6	2.2
Poletimber	1,012.3	5.0	18.1	24.3	34.4	59.6	90.9	68.0	142.4	111.1	92.0	189.7	144.7	28.4	3.7
Sapling and seedling	1,581.8	255.9	190.5	212.0	190.8	171.4	135.4	145.4	110.6	69.3	65.8	27.7	7.0	--	--
All stands	2,885.7	261.3	211.6	239.2	236.4	254.7	244.9	223.5	288.3	226.4	179.2	272.9	203.4	38.0	5.9
Paper birch															
Sawtimber	61.6	--	0.3	2.6	2.5	4.1	2.1	10.8	5.6	2.9	6.5	12.7	11.5	--	--
Poletimber	318.0	1.8	2.9	8.4	7.9	10.8	27.7	27.2	22.6	25.8	38.1	50.3	59.6	23.0	11.9
Sapling and seedling	114.1	30.8	23.5	13.8	8.7	10.9	7.5	7.7	--	2.7	--	3.3	5.2	--	--
All stands	493.7	32.6	26.7	24.8	19.1	25.8	37.3	45.7	28.2	31.4	44.6	66.3	76.3	23.0	11.9
Balsam poplar															
Sawtimber	6.4	--	--	--	6.4	--	--	--	--	--	--	--	--	--	--
Poletimber	8.2	--	0.8	--	4.6	--	--	--	2.8	--	--	--	--	--	--
Sapling and seedling	14.5	2.6	6.2	--	2.8	--	2.9	--	--	--	--	--	--	--	--
All stands	29.1	2.6	7.0	--	13.8	--	2.9	--	2.8	--	--	--	--	--	--
Nonstocked	56.4	45.6	6.1	4.7	--	--	--	--	--	--	--	--	--	--	--
All forest types															
Sawtimber	4,469.1	19.1	46.4	80.7	119.3	177.5	233.9	247.3	404.8	431.4	438.9	858.1	907.8	354.8	149.1
Poletimber	6,356.0	29.1	77.3	110.4	176.6	275.3	451.0	504.4	733.0	654.2	668.5	1,161.5	1,078.3	303.9	132.5
Sapling and seedling	4,821.0	928.6	617.7	589.3	666.5	489.8	380.6	405.2	248.3	173.1	134.3	113.9	42.9	21.2	9.6
Nonstocked	56.4	45.6	6.1	4.7	--	--	--	--	--	--	--	--	--	--	--
All stands	15,702.5	1,022.4	747.5	785.1	962.4	942.6	1,065.5	1,156.9	1,386.1	1,258.7	1,241.7	2,133.5	2,029.0	679.9	291.2

Table 33.--Net volume of growing stock on timberland by species group and Forest Survey Unit, Wisconsin, 1983 and 1996

(In thousand cubic feet)

Species group	Forest Survey Unit											
	All Units		Northeastern Unit		Northwestern Unit		Central Unit		Southwestern Unit		Southeastern Unit	
	1983	1996	1983	1996	1983	1996	1983	1996	1983	1996	1983	1996
Softwoods												
Jack pine	528,396	381,915	97,688	86,867	228,211	160,028	192,430	124,936	7,584	9,949	2,483	135
Red pine	725,227	987,821	273,170	384,968	173,828	295,719	201,578	218,079	59,642	44,911	17,009	44,144
White pine	625,167	928,649	236,176	337,881	168,875	212,463	185,184	289,153	16,277	64,458	18,655	24,694
White spruce	216,052	237,701	80,051	97,951	129,397	125,916	1,311	9,324	363	2,186	4,930	2,324
Black spruce	138,115	155,986	83,789	84,644	47,531	66,590	4,809	3,442	972	415	1,014	895
Balsam fir	625,407	470,736	263,909	189,389	341,068	268,656	17,568	11,079	186	--	2,676	1,612
Hemlock	299,931	400,900	202,283	253,568	68,635	100,118	26,226	34,973	--	--	2,787	12,241
Tamarack	151,981	265,005	43,931	88,035	67,151	130,703	27,665	35,295	--	--	13,234	10,972
Eastern redcedar	4,717	7,036	--	--	--	379	694	177	2,427	2,561	1,596	3,919
Northern white-cedar	484,777	568,702	253,154	305,656	124,962	192,362	31,499	16,452	--	--	75,162	54,232
Other softwoods	4,618	13,057	838	3,431	354	2,285	2,849	5,718	--	280	577	1,343
Total softwoods	3,804,388	4,417,508	1,534,989	1,832,390	1,350,012	1,555,219	691,813	748,628	87,451	124,760	140,123	156,511
Hardwoods												
Select white oak	758,588	926,757	12,845	17,045	91,216	135,822	186,254	257,746	333,153	368,082	135,120	148,062
Select red oak	1,503,521	1,729,526	222,767	322,915	396,424	556,909	344,090	321,079	450,000	447,587	90,240	81,036
Other red oak	662,270	659,875	43,279	65,719	42,378	54,323	334,627	407,527	188,468	78,677	53,518	53,629
Select hickory	115,196	130,915	--	--	--	--	5,826	13,819	71,704	84,867	37,666	32,229
Other hickory	61,417	88,104	8,361	8,397	8,325	17,645	11,449	15,139	27,064	41,414	6,218	5,509
Basswood	937,740	1,092,419	306,531	362,323	388,005	401,985	79,922	95,902	131,531	155,421	31,751	76,788
Beech	32,073	48,468	16,594	28,560	--	-	1,245	--	--	--	14,234	19,908
Yellow birch	233,388	260,572	101,844	107,205	94,420	121,410	27,991	22,532	1,313	2,434	7,820	6,991
Hard maple	1,614,835	2,155,013	709,562	955,762	587,023	835,629	120,494	127,447	125,914	145,899	71,842	90,276
Soft maple	1,221,228	1,905,873	310,673	471,160	466,039	710,886	288,694	438,853	98,013	157,588	57,809	127,386
Elm	516,779	268,832	146,823	26,190	169,497	31,026	51,247	28,679	100,704	129,055	48,508	53,882
Black ash	428,929	457,099	83,505	91,602	231,683	264,797	61,474	61,765	14,877	16,387	37,390	22,548
White and green ash	345,246	531,927	78,824	119,522	94,611	113,973	43,519	77,313	47,601	65,368	80,691	155,751
Cottonwood	30,668	49,615	4,046	2,731	--	701	2,542	7,711	19,153	33,023	4,927	5,449
Willow	23,024	21,529	2,328	258	165	--	2,655	1,986	7,333	6,607	10,543	12,678
Hackberry	2,605	9,715	--	--	--	--	--	163	1,817	8,607	788	945
Balsam poplar	46,215	49,676	30,232	27,615	11,043	14,988	--	1,277	1,308	2,113	3,632	3,683
Bigtooth aspen	754,270	757,158	179,096	172,891	299,341	251,854	159,067	151,514	96,712	151,027	20,054	29,872
Quaking aspen	2,072,174	1,724,760	662,047	549,455	952,259	871,192	335,648	212,056	77,574	56,554	44,646	35,503
Paper birch	1,090,037	832,320	389,422	338,138	464,572	302,669	115,929	75,728	95,761	78,251	24,353	37,534
River birch	9,643	12,687	--	--	--	--	3,091	2,790	6,552	9,267	--	630
Tupelo	--	311	--	--	--	--	--	--	--	--	--	311
Black cherry	174,435	200,490	46,678	44,266	20,757	12,650	16,970	22,929	47,928	71,398	42,102	49,247
Black walnut	26,029	48,347	--	774	422	1,272	283	879	19,077	34,311	6,247	11,111
Butternut	44,352	28,270	5,967	6,112	4,757	4,164	5,650	5,008	24,772	12,016	3,206	970
Other hardwoods	26,142	65,389	149	--	259	1,345	4,491	12,534	11,315	33,214	9,928	18,296
Total hardwoods	12,730,804	14,055,647	3,361,573	3,718,640	4,323,196	4,705,240	2,203,158	2,362,376	1,999,644	2,189,167	843,233	1,080,224
All species	16,535,192	18,473,155	4,896,562	5,551,030	5,673,208	6,260,459	2,894,971	3,111,004	2,087,095	2,313,927	983,356	1,236,735

Table 34.--Net volume of sawtimber on timberland by species group and Forest Survey Unit, Wisconsin, 1983 and 1996

(In thousand board feet)[1]

Species group	All Units		Forest Survey Unit									
			Northeastern Unit		Northwestern Unit		Central Unit		Southwestern Unit		Southeastern Unit	
	1983	1996	1983	1996	1983	1996	1983	1996	1983	1996	1983	1996
Softwoods												
Jack pine	1,078,755	945,233	233,762	255,830	399,404	390,208	421,980	283,454	19,911	15,067	3,698	674
Red pine	1,963,581	3,357,335	919,587	1,511,479	628,060	1,153,249	308,445	538,912	69,558	97,781	37,931	55,914
White pine	2,790,591	4,399,870	1,113,671	1,665,914	789,166	1,073,707	775,304	1,292,647	56,848	268,375	55,602	99,227
White spruce	696,565	899,918	252,559	373,155	428,414	490,898	3,318	16,688	--	9,472	12,274	9,705
Black spruce	118,354	185,159	76,642	79,924	38,128	102,852	3,584	--	--	2,383	--	--
Balsam fir	1,154,321	787,496	455,739	283,642	675,324	486,138	20,910	16,451	--	--	2,348	1,265
Hemlock	1,393,897	1,895,573	965,592	1,215,107	318,291	485,534	104,033	141,051	--	--	5,981	53,881
Tamarack	214,766	489,419	49,030	144,420	97,546	257,504	36,493	58,192	--	--	31,697	29,303
Eastern redcedar	5,392	14,564	5,392	--	--	2,006	1,587	--	2,438	2,870	1,367	9,688
Northern white-cedar	1,160,326	1,608,145	531,817	699,183	399,865	706,991	44,841	34,725	--	--	183,803	167,246
Other softwoods	7,642	29,792	--	4,284	1,274	11,207	6,368	11,152	--	1,378	--	1,771
Total softwoods	10,584,190	14,612,504	4,598,399	6,232,938	3,775,472	5,160,294	1,726,863	2,393,272	148,755	397,326	334,701	428,674
Hardwoods												
Select white oak	2,405,792	2,997,736	30,825	46,943	211,657	345,489	475,527	729,686	1,112,312	1,259,584	575,471	616,034
Select red oak	4,737,096	5,995,099	593,480	1,136,298	836,933	1,687,789	1,101,639	1,094,016	1,820,413	1,744,142	384,631	332,854
Other red oak	1,867,068	1,930,853	105,526	155,918	104,713	139,779	772,849	1,165,547	689,939	268,126	194,041	201,483
Select hickory	249,139	296,022	--	--	--	--	12,938	19,517	143,053	186,317	93,148	90,188
Other hickory	69,598	114,327	12,713	19,440	7,765	16,946	16,914	19,116	22,478	52,076	9,728	6,749
Basswood	2,117,803	3,021,734	601,062	935,849	797,422	1,093,064	218,606	269,117	395,271	492,606	105,442	231,098
Beech	125,225	175,170	66,258	100,231	--	--	4,886	--	--	--	54,081	74,939
Yellow birch	595,753	706,765	295,660	313,373	230,209	346,795	56,156	33,250	3,947	3,109	9,781	10,238
Hard maple	3,540,391	5,051,600	1,580,163	2,271,634	930,273	1,622,231	350,601	353,925	437,508	501,755	241,846	302,055
Soft maple	1,798,117	3,369,995	342,292	642,098	463,338	972,340	525,373	847,540	282,327	481,558	184,787	426,459
Elm	1,321,979	440,171	386,779	43,463	458,855	66,677	117,594	33,186	238,030	202,606	120,721	94,239
Black ash	544,894	606,552	106,101	114,372	267,723	311,810	88,522	98,837	36,047	47,020	46,501	34,513
White and green ash	784,299	1,330,690	170,529	280,507	185,021	280,008	93,099	150,618	123,643	197,339	212,007	422,218
Cottonwood	126,674	207,272	13,658	11,053	--	--	11,934	32,137	82,556	144,058	18,526	20,024
Willow	78,355	83,020	8,600	1,061	656	--	9,633	7,945	19,195	27,437	40,271	46,577
Hackberry	6,453	20,823	--	--	--	--	--	--	2,911	19,820	3,542	1,003
Balsam poplar	116,363	133,678	76,707	81,338	20,497	36,880	--	4,681	6,091	5,013	13,068	5,766
Bigtooth aspen	1,488,460	2,038,004	311,849	475,887	563,251	649,862	277,758	394,455	277,499	469,738	58,103	48,062
Quaking aspen	2,925,937	3,292,105	981,900	1,059,209	1,406,677	1,776,227	330,439	296,443	142,963	102,560	63,958	57,666
Paper birch	850,707	883,152	327,547	375,218	321,234	305,036	51,239	55,995	121,328	95,877	29,359	51,026
River birch	21,730	20,317	--	--	--	--	6,085	4,573	15,645	13,430	--	2,314
Black cherry	255,977	345,189	58,033	68,360	12,217	12,830	11,017	27,071	63,014	125,623	111,696	111,305
Black walnut	82,257	164,479	--	923	--	5,915	1,324	3,011	58,805	114,668	22,128	39,962
Butternut	127,447	89,717	20,134	13,003	15,060	12,862	20,659	19,880	65,415	42,437	6,179	1,535
Other hardwoods	39,895	93,433	656	--	--	--	5,127	13,611	23,827	64,100	10,285	15,722
Total hardwoods	26,277,409	33,407,903	6,090,472	8,146,178	6,833,501	9,682,540	4,559,919	5,674,157	6,184,217	6,660,999	2,609,300	3,244,029
All species	36,861,599	48,020,407	26,277,409	14,379,116	10,608,973	14,842,834	6,286,782	8,067,429	6,332,972	7,058,325	2,944,001	3,672,703

[1]International1/4-inch rule.

Table 35.--Net volume of all live trees[1] greater than 5 inches in diameter at breast height on timberland by species group and diameter class, Wisconsin, 1996

(In thousand cubic feet)

Species group	All classes	Diameter class (inches at breast height)									
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods											
Jack pine	399,654	83,038	115,789	100,835	62,763	23,644	9,712	3,158	715	--	--
Red pine	995,779	142,280	217,425	184,406	142,324	100,253	68,932	58,089	42,735	39,335	--
White pine	962,067	39,210	70,819	73,021	82,896	88,276	86,588	88,926	93,223	249,421	89,687
White spruce	243,659	29,497	43,241	44,779	41,889	29,265	25,218	15,569	8,017	6,184	--
Black spruce	157,608	76,491	46,240	21,119	6,009	2,206	2,173	1,154	1,525	691	--
Balsam fir	481,473	164,254	150,473	87,787	45,849	22,032	6,883	3,021	214	960	--
Hemlock	424,585	14,221	28,771	47,371	56,904	53,748	52,936	51,205	39,868	69,871	9,690
Tamarack	275,513	87,773	84,297	55,935	28,437	9,660	3,826	3,911	525	1,149	--
Eastern redcedar	10,549	3,858	2,139	1,984	1,788	133	265	382	--	--	--
Northern white-cedar	649,820	127,695	156,573	134,207	114,945	60,816	31,719	15,348	4,001	4,241	275
Other softwoods	15,177	4,032	3,889	2,540	2,355	879	469	564	449	--	--
Total hardwoods	4,615,884	772,349	919,656	753,984	586,159	390,912	288,721	241,327	191,272	371,852	99,652
Hardwoods											
Select white oak	1,158,096	51,573	108,377	147,327	162,654	163,904	143,591	95,894	81,023	174,824	28,929
Select red oak	1,888,981	61,406	149,500	227,405	299,223	315,167	254,112	181,228	110,545	237,243	53,152
Other red oak	852,945	54,412	103,086	136,992	154,768	120,544	93,647	62,777	48,140	71,386	7,193
Select hickory	144,661	15,418	23,352	26,191	26,720	18,732	14,466	8,942	4,841	5,999	--
Other hickory	99,638	18,426	25,721	19,756	16,190	12,532	4,425	1,595	993	--	--
Basswood	1,161,860	79,922	147,213	217,151	236,191	193,112	119,861	61,001	40,304	54,635	12,470
Beech	54,679	3,607	4,832	6,627	5,546	8,136	9,501	5,174	2,439	7,197	1,620
Yellow birch	328,471	33,472	49,049	57,895	54,467	45,308	32,421	18,953	12,462	23,605	839
Hard maple	2,431,551	287,654	419,038	445,354	335,314	281,841	209,954	152,117	119,486	166,933	13,860
Soft maple	2,206,310	375,654	467,224	445,306	336,042	215,473	130,201	89,419	42,011	85,769	19,211
Elm	336,458	61,687	77,755	58,932	51,021	35,035	18,698	15,251	7,579	8,920	1,580
Black ash	493,440	108,074	132,512	106,102	67,299	41,974	18,763	11,185	2,524	5,007	--
White and green ash	580,770	60,670	91,568	104,172	101,468	85,971	57,869	30,199	21,400	23,162	4,291
Cottonwood	56,315	587	1,352	2,923	4,461	3,993	4,057	8,457	5,698	14,320	10,467
Willow	48,823	512	1,509	2,781	4,362	5,172	2,695	2,942	1,661	4,552	22,637
Hackberry	11,650	553	2,755	3,007	1,119	1,808	548	728	--	1,132	--
Balsam poplar	52,195	6,010	6,791	8,699	7,976	9,689	6,734	2,768	1,020	2,508	--
Bigtooth aspen	810,624	61,428	103,573	160,802	176,389	155,057	83,831	42,214	11,266	16,064	--
Quaking aspen	1,916,478	264,249	364,268	423,038	366,798	256,141	149,093	58,045	21,199	12,931	716
Paper birch	909,847	164,523	268,574	240,646	136,552	63,239	24,035	8,009	2,084	2,185	--
River birch	15,059	1,289	3,351	3,825	3,132	1,524	1,356	--	242	340	--
Tupelo	311	--	--	311	--	--	--	--	--	--	--
Black cherry	270,739	49,492	62,936	58,409	41,839	26,236	16,698	7,744	3,856	3,529	--
Black walnut	62,940	3,209	6,273	8,085	9,027	12,810	9,631	5,606	3,087	3,703	1,509
Butternut	41,724	2,222	5,041	7,380	6,896	6,110	4,975	4,072	1,533	3,495	--
Other hardwoods	124,245	24,576	29,422	21,359	19,315	14,176	7,050	2,813	2,369	2,820	345
Total hardwoods	16,058,810	1,790,625	2,655,072	2,940,475	2,624,769	2,093,684	1,418,212	877,133	547,762	932,259	178,819
Noncommercial species	58,219	34,734	14,219	4,662	2,646	780	519	267	--	392	--
All species	20,732,913	2,597,708	3,588,947	3,699,121	3,213,574	2,485,376	1,707,452	1,118,727	739,034	1,304,503	278,471

[1]Net volume of all live trees 5 inches d.b.h. and larger from a 1-foot stump to a 4-inch top diameter outside bark.

Table 36.--Net volume of tree species on timberland by major tree class and individual species, Wisconsin, 1996

Individual species	Total all live	Major tree class: All live trees: Growing stock	All live trees: Short-log	All live trees: Rough	All live trees: Rotten	Saw-log size trees: Total saw-log size trees	Saw-log size trees: Sawtimber	Saw-log size trees: Short-log
		(In thousand cubic feet)				*(In thousand board feet)* [1]		
Softwoods								
Jack pine	399,654	381,915	1,508	15,652	579	950,073	945,233	4,840
Red pine	995,779	987,821	1,005	6,844	109	3,361,018	3,357,335	3,683
White pine	962,067	928,649	11,075	20,201	2,142	4,437,767	4,399,870	37,897
White spruce	243,659	237,701	1,538	4,420	--	907,531	899,918	7,613
Black spruce	157,608	155,986	--	1,622	--	185,159	185,159	--
Balsam fir	481,473	470,736	1,210	8,505	1,022	790,970	787,496	3,474
Hemlock	424,585	400,900	6,486	12,453	4,746	1,914,104	1,895,573	18,531
Tamarack	275,513	265,005	1,323	7,556	1,629	494,921	489,419	5,502
Eastern redcedar	10,549	7,036	503	2,877	133	16,871	14,564	2,307
Northern white-cedar	649,820	568,702	12,923	39,472	28,723	1,654,039	1,608,145	45,894
European larch	453	453	--	--	--	--	--	--
Norway spruce	5,792	5,516	--	276	--	12,341	12,341	--
Scotch pine	8,932	7,088	284	1,560	--	18,658	17,451	1,207
Total softwoods	4,615,884	4,417,508	37,855	121,438	39,083	14,743,452	14,612,504	130,948
Hardwoods								
White oak	779,577	645,016	60,051	67,207	7,303	2,197,015	2,048,722	148,293
Swamp white oak	39,706	35,775	973	2,777	181	124,828	122,512	2,316
Bur oak	337,840	245,324	32,704	57,201	2,611	905,468	824,395	81,073
Chinkapin oak	973	642	331	--	--	2,872	2,107	765
Northern red oak	1,888,981	1,729,526	62,936	77,815	18,704	6,130,596	5,995,099	135,497
Northern pin oak	308,489	239,046	16,522	47,591	5,330	660,268	625,373	34,895
Pin oak	1,157	1,157	--	--	--	2,097	2,097	--
Black oak	543,299	419,672	43,536	71,276	8,815	1,399,647	1,303,383	96,264
Shellbark hickory	432	232	--	200	--	--	--	--
Shagbark hickory	143,512	129,966	4,215	8,459	872	302,026	293,143	8,883
Mockernut hickory	717	717	--	--	--	2,879	2,879	--
Bitternut hickory	98,326	86,952	2,221	8,349	804	115,428	110,742	4,686
Pignut hickory	1,312	1,152	160	--	--	3,874	3,585	289
American basswood	1,161,860	1,092,419	19,005	33,830	16,606	3,062,017	3,021,734	40,283
Beech	54,679	48,468	849	3,288	2,074	177,326	175,170	2,156
Yellow birch	328,471	260,572	18,012	36,791	13,096	748,830	706,765	42,065
Sugar maple	2,431,551	2,155,013	59,690	178,232	38,616	5,185,823	5,051,600	134,223
Red maple	2,051,558	1,778,738	46,195	189,010	37,615	3,015,681	2,901,705	113,976
Silver maple	154,752	127,135	12,487	11,775	3,355	500,978	468,290	32,688
American elm	269,790	212,957	15,617	40,153	1,063	374,843	337,080	37,763
Slippery elm	64,313	54,242	2,626	6,880	565	107,523	101,216	6,307
Rock elm	2,355	1,633	--	722	--	1,875	1,875	--
Black ash	493,440	457,099	5,281	27,005	4,055	618,293	606,552	11,741
White ash	312,321	289,991	5,187	14,948	2,195	782,379	770,909	11,470
Green ash	268,449	241,936	6,560	17,698	2,255	573,222	559,781	13,441
Eastern cottonwood	56,315	49,615	4,724	1,976	--	224,258	207,272	16,986
Black willow	48,823	21,529	15,910	10,440	944	149,973	83,020	66,953
Hackberry	11,650	9,715	--	1,935	--	20,823	20,823	--
Balsam poplar	52,195	49,676	233	1,416	870	134,245	133,678	567
Bigtooth aspen	810,624	757,158	4,682	29,504	19,280	2,045,583	2,038,004	7,579
Quaking aspen	1,916,478	1,724,760	31,256	93,495	66,967	3,355,571	3,292,105	63,466
Paper birch	909,847	832,320	12,541	59,202	5,784	911,603	883,152	28,451
River birch	15,059	12,687	408	1,794	170	21,743	20,317	1,426
Black tupelo	311	311	--	--	--	--	--	--
Black cherry	270,739	200,490	8,028	57,225	4,996	362,745	345,189	17,556
Black walnut	62,940	48,347	6,190	6,999	1,404	179,153	164,479	14,674
Butternut	41,724	28,270	689	7,481	5,284	91,331	89,717	1,614
Boxelder	95,974	45,556	5,843	40,816	3,759	78,134	61,512	16,622
Honeylocust	621	430	--	191	--	1,217	1,217	--
Red mulberry	4,037	750	--	2,494	793	--	--	--
Black locust	23,613	18,653	376	2,964	1,620	31,719	30,704	1,015
Noncommercial species	58,219	--	--	57,143	1,076	--	--	--
Total hardwoods	16,117,029	14,055,647	506,038	1,276,282	279,062	34,603,886	33,407,903	1,195,983
All commercial species	20,732,913	18,473,155	543,893	1,397,720	318,145	49,347,338	48,020,407	1,326,931

[1] International 1/4-inch rule.

Table 37.--Net volume of noncommercial tree species on timberland by individual species, Wisconsin, 1996

(In thousand cubic feet)

Noncommercial tree species	Non-growing-stock volume
Striped maple	211
Mountain maple	343
American hornbeam	205
Hawthorn	3,811
Apple	7,489
Eastern hophornbeam	42,595
Pincherry	1,374
Chokecherry	1,855
Wild plum	336
All noncommercial species	58,219

Table 38.--Net volume of growing stock on timberland by species group and forest type, Wisconsin, 1996

(In thousand cubic feet)

Species group	All types	Forest type														
		Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-basswood	Aspen	Paper birch	Balsam poplar	Nonstocked
Softwoods																
Jack pine	381,915	218,414	32,917	9,706	--	--	491	197	--	62,962	1,471	12,414	36,013	7,330	--	--
Red pine	987,821	33,897	719,106	43,590	6,823	538	703	284	909	46,553	1,230	37,027	68,193	28,968	--	--
White pine	928,649	12,947	66,134	273,526	12,185	1,400	4,485	12,135	17,917	74,673	32,609	301,713	92,447	25,761	--	717
White spruce	237,701	1,211	7,535	3,087	23,113	71,904	287	10,578	1,480	546	8,142	51,993	50,186	7,240	285	114
Black spruce	155,986	1,455	628	611	13,767	1,717	67,391	21,663	21,788	166	5,416	6,351	13,813	839	--	381
Balsam fir	470,736	2,606	5,294	4,055	97,261	5,019	4,609	29,209	1,769	720	49,497	124,897	107,569	34,678	2,961	592
Hemlock	400,900	417	--	3,228	4,747	335	187	9,346	219	1,353	11,123	362,028	2,752	5,165	--	--
Tamarack	265,005	--	--	778	12,335	1,182	33,239	16,625	152,516	2,456	23,282	9,573	6,574	4,405	1,140	900
Eastern redcedar	7,036	--	--	--	--	--	--	--	--	4,753	--	1,773	361	149	--	--
Northern white-cedar	568,702	--	1,350	1,032	31,023	890	4,393	347,305	3,869	180	76,062	77,929	12,194	12,265	210	--
Other softwoods	13,057	3,452	2,674	528	--	--	--	--	--	680	432	1,641	1,287	2,363	--	--
Total softwoods	4,417,508	274,399	835,638	340,141	201,254	82,985	115,785	447,342	200,467	195,042	209,264	987,339	391,389	129,163	4,596	2,704
Hardwoods																
Select white oak	926,757	293	--	1,966	--	--	--	--	--	659,894	23,999	191,843	38,328	10,434	--	--
Select red oak	1,729,526	3,043	6,302	3,510	--	3,187	--	1,768	--	1,027,534	17,595	513,810	105,460	47,317	--	--
Other red oak	659,875	9,555	7,832	6,055	--	--	275	685	223	540,890	8,056	58,020	26,209	2,075	--	--
Select hickory	130,915	--	--	416	--	--	--	--	--	105,087	517	20,846	2,388	1,661	--	--
Other hickory	88,104	--	--	--	--	--	--	--	--	36,523	1,807	48,435	668	671	--	--
Basswood	1,092,419	100	578	804	--	400	--	--	--	81,526	23,243	959,785	24,082	1,901	--	--
Beech	48,468	--	--	--	--	--	--	--	--	1,269	--	47,050	149	--	--	--
Yellow birch	260,572	--	--	--	1,945	--	645	7,461	930	188	26,688	219,302	3,248	165	--	--
Hard maple	2,155,013	133	2,773	861	4,652	1,622	--	--	--	59,776	16,178	2,016,493	40,837	11,688	--	--
Soft maple	1,905,873	710	5,483	9,235	7,014	731	1,267	8,341	4,144	166,454	354,215	1,129,669	157,246	61,364	--	--
Elm	268,832	--	469	785	510	384	--	913	526	58,847	43,007	143,959	17,669	1,533	--	230
Black ash	457,099	--	--	--	7,075	--	--	10,947	529	8,545	258,792	149,105	14,696	6,734	175	501
White and green ash	531,927	--	214	790	240	--	--	1,367	--	43,098	122,415	345,321	14,891	3,591	--	--
Cottonwood	49,615	261	--	198	--	--	--	--	--	6,481	27,864	10,265	1,394	3,152	--	--
Willow	21,529	--	--	--	--	--	--	--	--	190	18,581	2,458	--	--	--	300
Hackberry	9,715	--	--	--	--	--	--	--	--	2,952	2,062	4,701	--	--	--	--
Balsam poplar	49,676	--	--	354	1,055	--	--	4,890	695	1,218	11,841	8,322	8,205	2,939	10,157	--
Bigtooth aspen	757,158	1,593	3,005	2,238	2,511	1,678	--	450	272	199,777	6,690	173,503	339,231	26,210	--	--
Quaking aspen	1,724,760	16,669	14,807	11,596	30,884	6,134	4,102	7,713	1,102	86,353	82,712	400,623	1,001,776	58,582	1,349	358
Paper birch	832,320	1,567	4,650	7,461	11,821	4,954	893	14,345	858	87,162	35,784	257,976	134,222	270,627	--	--
River birch	12,687	--	--	--	--	--	--	--	--	3,328	8,818	541	--	--	--	--
Tupelo	311	--	--	--	--	--	--	--	--	--	--	--	311	--	--	--
Black cherry	200,490	148	1,482	843	430	417	144	525	--	73,929	11,725	96,174	12,781	1,892	--	--
Black walnut	48,347	--	--	--	--	--	--	--	--	34,785	3,177	9,632	342	411	--	--
Butternut	28,270	--	--	--	--	--	--	--	--	11,810	766	14,067	1,085	542	--	--
Other hardwoods	65,389	--	278	336	--	--	--	--	--	15,078	35,734	13,086	877	--	--	--
Total hardwoods	14,055,647	34,072	47,873	47,448	68,137	19,507	7,326	59,405	9,279	3,312,694	1,142,266	6,834,986	1,946,095	513,489	11,681	1,389
All species	18,473,155	308,471	883,511	387,589	269,391	102,492	123,111	506,747	209,746	3,507,736	1,351,530	7,822,325	2,337,484	642,652	16,277	4,093

Table 39.--Net volume of sawtimber on timberland by species group and forest type, Wisconsin, 1996

(In thousand board feet)[1]

Species group	All types	Forest type														
		Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-basswood	Aspen	Paper birch	Balsam poplar	Nonstocked
Softwoods																
Jack pine	945,233	471,050	68,503	36,955	--	--	2,434	--	--	172,173	2,786	43,938	116,815	30,579	--	--
Red pine	3,357,335	139,897	2,096,099	216,707	31,636	2,807	3,073	783	5,229	201,947	5,787	187,350	327,332	138,688	--	--
White pine	4,399,870	60,195	256,262	1,283,377	55,635	6,581	18,759	60,835	88,350	319,973	163,362	1,523,490	430,635	128,119	--	4,297
White spruce	899,918	5,828	27,772	13,662	85,129	216,619	766	46,563	--	1,814	30,405	227,701	212,851	30,808	--	--
Black spruce	185,159	2,829	--	2,285	37,085	--	18,902	48,986	13,112	--	6,455	24,757	29,805	943	--	--
Balsam fir	787,496	3,074	7,922	7,882	135,087	19,930	7,206	22,193	--	2,966	64,991	253,585	202,755	47,959	9,015	2,931
Hemlock	1,895,573	2,510	--	11,949	23,549	1,974	943	36,356	1,125	7,125	45,299	1,728,491	13,259	22,993	--	--
Tamarack	489,419	--	--	1,035	36,078	3,689	27,903	32,556	241,877	3,416	74,065	30,910	9,594	17,307	6,090	4,899
Eastern redcedar	14,564	--	--	--	--	--	--	--	--	9,362	--	5,202	--	--	--	--
Northern white-cedar	1,608,145	--	3,803	4,600	88,748	3,518	10,846	939,799	11,158	--	228,087	252,398	41,093	23,015	1,080	--
Other softwoods	29,792	2,991	4,350	2,067	--	--	--	--	--	3,545	1,378	6,130	6,610	2,721	--	--
Total softwoods	14,612,504	688,374	2,464,711	1,580,519	492,947	255,118	90,832	1,188,071	360,851	722,321	622,615	4,283,952	1,390,749	443,132	16,185	12,127
Hardwoods																
Select white oak	2,997,736	--	--	5,143	--	--	--	--	--	2,070,835	90,057	693,337	96,927	41,437	--	--
Select red oak	5,995,099	2,175	18,880	8,420	--	9,607	--	9,458	--	3,458,233	72,566	1,932,564	293,275	189,921	--	--
Other red oak	1,930,853	28,806	14,289	24,423	--	--	--	3,443	1,016	1,541,248	26,528	205,084	82,056	3,960	--	--
Select hickory	296,022	--	--	--	--	--	--	--	--	223,179	1,195	58,850	7,315	5,483	--	--
Other hickory	114,327	--	--	--	--	--	--	--	--	41,165	3,742	67,457	--	1,963	--	--
Basswood	3,021,734	--	668	--	--	623	--	--	--	231,201	53,713	2,678,416	50,098	7,015	--	--
Beech	175,170	--	--	--	--	--	--	--	--	2,189	--	172,981	--	--	--	--
Yellow birch	706,765	--	--	--	5,955	--	2,092	25,000	2,527	--	61,130	603,842	6,219	--	--	--
Hard maple	5,051,600	--	5,272	--	12,017	6,812	--	--	--	136,136	37,399	4,800,291	41,505	12,168	--	--
Soft maple	3,369,995	--	6,584	13,502	9,423	--	1,015	10,891	2,284	267,908	897,998	1,986,417	102,127	71,846	--	--
Elm	440,171	--	733	592	--	618	--	688	892	112,882	39,943	249,865	31,135	2,823	--	--
Black ash	606,552	--	--	--	8,702	--	--	3,005	--	11,437	331,899	235,119	7,723	7,700	--	967
White and green ash	1,330,690	--	949	1,803	994	--	--	5,005	--	118,869	307,025	871,297	21,671	3,077	--	--
Cottonwood	207,272	1,185	--	--	--	--	--	--	--	25,964	113,008	48,142	4,350	14,623	--	--
Willow	83,020	--	--	--	--	--	--	--	--	--	73,372	8,530	--	--	--	1,118
Hackberry	20,823	--	--	--	--	--	--	--	--	6,879	2,171	11,773	--	--	--	--
Balsam poplar	133,678	--	--	1,572	2,514	--	--	13,604	1,449	3,673	42,575	24,610	8,444	6,123	29,114	--
Bigtooth aspen	2,038,004	750	828	6,024	4,736	4,730	--	1,090	1,313	588,655	13,045	533,011	790,906	92,916	--	--
Quaking aspen	3,292,105	25,869	16,743	25,336	65,665	9,226	2,740	14,461	3,013	153,940	162,870	1,009,804	1,631,192	165,361	4,258	1,627
Paper birch	883,152	4,879	9,107	13,122	8,620	9,787	--	17,518	1,059	93,382	27,659	351,259	112,316	234,444	--	--
River birch	20,317	--	--	--	--	--	--	--	--	7,389	12,928	--	--	--	--	--
Black cherry	345,189	--	--	1,955	--	579	--	--	--	163,240	20,472	146,736	12,207	--	--	--
Black walnut	164,479	--	--	--	--	--	--	--	--	120,496	7,168	33,258	1,598	1,959	--	--
Butternut	89,717	--	--	--	--	--	--	--	--	33,288	1,938	49,336	3,919	1,236	--	--
Other hardwoods	93,433	--	--	1,028	--	--	--	--	--	12,792	55,435	24,178	--	--	--	--
Total hardwoods	33,407,903	63,664	74,053	102,920	118,626	41,982	5,847	104,163	13,553	9,424,980	2,455,836	16,796,157	3,304,983	864,055	33,372	3,712
All species	48,020,407	752,038	2,538,764	1,683,439	611,573	297,100	96,679	1,292,234	374,404	10,147,301	3,078,451	21,080,109	4,695,732	1,307,187	49,557	15,839

[1] International 1/4-inch rule.

Table 40.--Net volume of short-log trees (cull volume) in cubic feet on timberland by species group and diameter class, Wisconsin, 1996

(In thousand cubic feet)

Species group	Total	Diameter class (inches at breast height)							
		9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods									
Jack pine	1,508	1,004	504	--	--	--	--	--	--
Red pine	1,005	251	512	242	--	--	--	--	--
White pine	11,075	2,010	653	2,996	1,813	--	--	1,033	2,570
White spruce	1,538	479	--	432	--	627	--	--	--
Balsam fir	1,210	704	--	506	--	--	--	--	--
Hemlock	6,486	648	1,904	780	1,133	152	750	1,119	--
Tamarack	1,323	305	701	149	--	168	--	--	--
Eastern redcedar	503	503	--	--	--	--	--	--	--
Northern white-cedar	12,923	4,230	2,500	1,979	1,742	1,287	184	1,001	--
Other softwoods	284	284	--	--	--	--	--	--	--
Total softwoods	37,855	10,418	6,774	7,084	4,688	2,234	934	3,153	2,570
Hardwoods									
Select white oak	94,059	--	11,328	13,412	12,803	9,547	8,605	27,295	11,069
Select red oak	62,936	--	8,956	10,839	7,694	6,138	5,144	13,113	11,052
Other red oak	60,058	--	17,352	9,802	7,262	5,817	4,290	12,250	3,285
Select hickory	4,215	--	2,414	538	777	122	364	--	--
Other hickory	2,381	--	989	1,161	231	--	--	--	--
Basswood	19,005	--	3,821	2,951	2,362	1,668	1,250	2,478	4,475
Beech	849	--	--	--	530	--	--	319	--
Yellow birch	18,012	--	5,118	5,060	2,815	1,944	1,005	2,070	--
Hard maple	59,690	--	10,470	14,775	10,827	6,991	4,495	7,692	4,440
Soft maple	58,682	--	14,433	13,711	8,378	5,438	2,731	10,259	3,732
Elm	18,243	--	7,945	4,615	2,052	465	1,018	860	1,288
Black ash	5,281	--	2,267	1,548	537	929	--	--	--
White & green ash	11,747	--	3,026	3,162	1,041	832	983	2,703	--
Cottonwood	4,724	--	--	208	--	1,062	--	--	3,454
Willow	15,910	--	532	--	--	291	--	572	14,515
Balsam poplar	233	--	--	--	233	--	--	--	--
Bigtooth aspen	4,682	--	481	1,799	1,697	332	--	373	--
Quaking aspen	31,256	--	11,073	9,071	5,509	3,387	1,363	907	--
Paper birch	12,541	--	6,217	3,871	2,252	201	--	--	--
River birch	408	--	166	--	--	--	242	--	--
Black cherry	8,028	--	3,161	2,155	1,417	--	--	1,295	--
Black walnut	6,190	--	536	1,354	1,192	1,810	51	505	742
Butternut	689	--	--	328	--	361	--	--	--
Other hardwoods	6,219	--	1,803	2,601	1,396	205	214	--	--
Total hardwoods	506,038	--	112,088	102,961	71,005	47,540	31,755	82,691	58,052
All species	543,893	10,418	118,862	110,045	75,693	49,774	32,689	85,844	60,622

Table 41.--Net volume of short-log trees (cull volume) in board feet[1] on timberland by species group and diameter class, Wisconsin, 1996

(In thousand board feet)[1]

Species group	Total	Diameter class (inches at breast height)							
		9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Softwoods									
Jack pine	4,840	3,191	1,649	--	--	--	--	--	--
Red pine	3,683	916	1,862	905	--	--	--	--	--
White pine	37,897	6,088	2,042	9,708	6,061	--	--	3,798	10,200
White spruce	7,613	2,212	--	2,140	--	3,261	--	--	--
Balsam fir	3,474	1,967	--	1,507	--	--	--	--	--
Hemlock	18,531	1,737	5,064	2,165	3,268	454	2,285	3,558	--
Tamarack	5,502	1,236	2,881	636	--	749	--	--	--
Eastern redcedar	2,307	2,307	--	--	--	--	--	--	--
Northern white-cedar	45,894	14,518	8,644	7,021	6,345	4,781	696	3,889	--
Other softwoods	1,207	1,207	--	--	--	--	--	--	--
Total softwoods	130,948	35,379	22,142	24,082	15,674	9,245	2,981	11,245	10,200
Hardwoods									
Select white oak	232,447	--	23,923	30,266	30,293	23,264	21,631	72,204	30,866
Select red oak	135,497	--	16,629	21,451	15,881	13,142	11,354	30,007	27,033
Other red oak	131,159	--	33,694	20,572	15,851	13,071	9,946	29,690	8,335
Select hickory	8,883	--	4,687	1,179	1,787	299	931	--	--
Other hickory	4,975	--	1,903	2,542	530	--	--	--	--
Basswood	40,283	--	7,031	5,831	4,814	3,511	2,708	5,553	10,835
Beech	2,156	--	--	1,283	--	--	--	873	--
Yellow birch	42,065	--	10,975	11,648	6,769	4,804	2,521	5,348	--
Hard maple	134,223	--	20,848	31,816	24,370	16,183	10,706	18,789	11,511
Soft maple	146,664	--	31,791	33,017	21,082	14,115	7,195	28,537	10,927
Elm	44,070	--	17,721	11,049	5,089	1,220	2,721	2,335	3,935
Black ash	11,741	--	4,711	3,502	1,278	2,250	--	--	--
White & green ash	24,911	--	5,740	6,412	2,219	1,822	2,192	6,526	--
Cottonwood	16,986	--	--	604	--	3,424	--	--	12,958
Willow	66,953	--	1,427	--	--	950	--	2,064	62,512
Balsam poplar	567	--	--	--	567	--	--	--	--
Bigtooth aspen	7,579	--	715	2,828	2,806	571	--	659	--
Quaking aspen	63,466	--	20,893	18,402	11,659	7,365	3,059	2,088	--
Paper birch	28,451	--	13,490	8,984	5,469	508	--	--	--
River birch	1,426	--	537	--	--	--	889	--	--
Black cherry	17,556	--	6,379	4,680	3,237	--	--	3,260	--
Black walnut	14,674	--	1,095	3,073	2,796	4,357	125	1,268	1,960
Butternut	1,614	--	--	742	--	872	--	--	--
Other hardwoods	17,637	--	4,768	7,430	4,127	638	674	--	--
Total hardwoods	1,195,983	--	228,957	227,311	160,624	112,366	76,652	209,201	180,872
All species	1,326,931	35,379	251,099	251,393	176,298	121,611	79,633	220,446	191,072

[1]International 1/4-inch rule.

Table 42.--Current annual growth of growing stock and sawtimber on timberland, 1982 and 1995, and average net annual growth of growing stock and sawtimber, 1983-1995, by softwoods and hardwoods and Forest Survey Unit, Wisconsin

Forest Survey Unit and softwoods and hardwoods	Growing stock			Sawtimber		
	Current annual growth	Average net annual growth	Current annual growth	Current annual growth	Average net annual growth	Current annual growth
	1982	1983-1995	1995	1982	1983-1995	1995
	(In thousand cubic feet)			*(In thousand board feet)* [1]		
Northeastern Unit						
Softwoods	28,026	45,705	47,106	141,856	173,896	200,243
Hardwoods	67,078	93,340	104,044	255,383	292,170	310,956
Total	95,104	139,045	151,150	397,239	466,066	511,199
Northwestern Unit						
Softwoods	29,153	41,445	45,260	145,237	162,203	188,923
Hardwoods	100,813	122,169	139,036	375,602	388,287	432,144
Total	129,966	163,614	184,296	520,839	550,490	621,067
Central Unit						
Softwoods	4,702	31,268	34,005	19,285	166,284	125,999
Hardwoods	13,278	62,951	69,741	51,779	213,892	211,071
Total	17,980	94,219	103,746	71,064	330,176	337,016
Southwestern Unit						
Softwoods	223	5,940	5,875	861	26,227	27,904
Hardwoods	10,269	52,935	57,038	43,340	201,608	204,594
Total	10,492	58,875	62,913	44,201	227,835	232,498
Southeastern Unit						
Softwoods	725	5,757	6,258	3,099	14,308	19,205
Hardwoods	4,025	28,580	303,056	18,485	91,699	93,089
Total	4,750	34,337	36,314	21,584	106,007	112,294
All Units						
Softwoods	64,195	130,115	138,504	322,185	492,918	562,274
Hardwoods	196,685	359,975	399,915	747,925	1,187,656	1,251,800
Total	260,880	490,090	538,419	1,070,110	1,680,574	1,814,074

[1] International 1/4-inch rule.

Table 43.--Average net annual growth of growing stock on timberland by species group and forest type, Wisconsin, 1983-1995

(In thousand cubic feet)

Species group	All types	Forest type														
		Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-basswood	Aspen	Paper birch	Balsam poplar	Non-stocked
Softwoods																
Jack pine	10,061	7,269	940	-111	--	-18	9	21	-8	1,868	99	-82	181	-107	--	--
Red pine	45,877	1,509	36,839	1,161	205	11	10	18	3	1,726	38	973	2,605	779	--	--
White pine	28,976	741	2,481	7,585	435	74	70	-118	642	3,272	827	8,168	3,795	996	--	8
White spruce	11,557	73	399	138	1,321	3,605	23	81	52	35	199	2,118	3,122	326	21	44
Black spruce	2,209	60	-28	16	147	14	1,343	-69	250	--	109	-49	382	24	--	10
Balsam fir	7,691	156	230	39	2,506	-3	118	-761	-13	88	291	11	3,923	1,047	47	12
Hemlock	6,639	8	--	80	58	4	-1	85	11	34	141	6,106	-3	116	--	--
Tamarack	5,529	--	--	16	180	7	994	147	3,297	120	165	148	280	120	9	46
Eastern redcedar	716	--	--	--	--	--	--	--	--	572	--	104	24	16	--	--
Northern white-cedar	10,161	1	23	-29	483	8	108	6,437	124	17	1,210	1,164	301	311	3	--
Other softwoods	699	291	98	10	--	--	--	--	--	24	19	127	32	98	--	--
Total softwoods	130,115	10,108	40,982	8,905	5,335	3,702	2,674	5,841	4,358	7,756	3,098	18,788	14,642	3,726	80	120
Hardwoods																
Select white oak	16,698	9	-11	18	--	--	--	--	--	11,751	404	3,352	935	240	--	--
Select red oak	43,890	133	151	106	--	116	--	24	--	24,828	498	13,162	3,731	1,141	--	--
Other red oak	12,372	267	83	46	--	--	15	12	5	9,957	272	942	742	31	--	--
Select hickory	3,196	--	--	6	--	--	--	--	--	2,580	12	482	120	-4	--	--
Other hickory	2,980	--	--	--	--	--	--	--	--	1,420	54	1,647	-161	20	--	--
Basswood	20,364	7	47	33	-45	26	--	--	--	1,658	700	16,984	928	26	--	--
Beech	988	--	--	--	--	--	--	--	--	-7	--	881	114	--	--	--
Yellow birch	1,522	--	7	--	-2	13	-18	80	12	29	113	1,209	116	-37	--	--
Hard maple	60,360	9	130	98	114	28	--	5	--	1,870	551	54,599	2,511	445	--	--
Soft maple	64,974	56	270	318	285	51	16	103	148	6,611	11,294	35,495	8,120	2,207	--	--
Elm	6,233	--	-39	162	-33	-7	--	77	78	1,605	1,293	2,489	579	10	--	19
Black ash	10,893	--	--	39	51	19	--	215	31	196	6,869	2,687	535	203	13	35
White & green ash	20,305	--	1	29	8	--	--	46	--	1,568	4,351	13,230	932	140	--	--
Cottonwood	1,315	3	--	34	--	--	--	--	--	136	717	333	54	38	--	--
Willow	217	--	--	--	--	--	--	--	--	11	145	70	--	-24	--	15
Hackberry	403	--	--	--	--	--	--	--	--	100	149	154	--	--	--	--
Balsam poplar	729	--	--	31	16	--	--	-255	25	57	-67	158	420	59	285	--
Bigtooth aspen	21,440	68	105	24	83	45	--	11	5	4,144	330	4,244	11,728	639	--	14
Quaking aspen	52,728	712	579	38	345	222	154	-277	-10	567	1,151	8,272	40,295	729	-12	-37
Paper birch	7,513	60	76	-134	181	85	34	120	1	-118	-290	634	2,949	3,907	8	--
River birch	348	--	--	--	--	--	--	--	--	74	231	43	--	--	--	--
Tupelo	8	--	--	--	--	--	--	--	--	--	--	--	8	--	--	--
Black cherry	5,924	12	108	-22	14	18	1	22	--	1,821	234	2,801	758	157	--	--
Black walnut	1,581	--	--	--	--	--	--	--	--	1,111	191	255	6	18	--	--
Butternut	-591	--	--	3	--	--	--	--	--	-294	-45	-265	--	10	--	--
Other hardwoods	3,585	--	8	3	--	--	--	--	--	976	2,066	439	93	--	--	--
Total hardwoods	359,975	1,336	1,515	832	1,017	616	202	183	295	72,651	31,223	164,297	75,513	9,955	294	46
All species	490,090	11,444	42,497	9,737	6,352	4,318	2,876	6,024	4,653	80,407	34,321	183,085	90,155	13,681	374	166

Table 44.--Average net annual growth of sawtimber on timberland by species group and forest type, Wisconsin, 1983-1995

(In thousand board feet)[1]

Species group	All types	Forest type														
		Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-basswood	Aspen	Paper birch	Balsam poplar	Non-stocked
Softwoods																
Jack pine	34,586	16,221	4,432	-39	--	-89	44	--	--	10,518	588	1,575	1,015	321	--	--
Red pine	165,242	6,979	119,954	5,005	1,274	160	53	80	17	9,110	149	4,938	13,352	4,171	--	--
White pine	139,224	2,533	13,416	36,348	1,819	369	414	-573	3,636	11,948	4,559	41,842	18,246	4,615	--	52
White spruce	44,972	318	1,308	475	3,651	13,686	55	547	--	156	500	8,487	13,865	1,924	--	--
Black spruce	4,271	109	--	-46	1,057	--	24	378	519	--	695	142	1,362	31	--	--
Balsam fir	25,473	135	89	456	3,922	341	611	43	1	236	3,145	2,041	11,662	2,107	440	244
Hemlock	33,245	48	--	400	469	26	12	285	91	232	517	30,600	-32	597	--	--
Tamarack	10,979	--	--	-3	613	-6	816	122	7,043	295	661	-35	861	455	64	93
Eastern redcedar	762	--	--	--	--	--	--	--	--	423	--	339	--	--	--	--
Northern white-cedar	32,989	4	58	-188	1,225	--	504	19,826	134	--	5,039	3,946	1,930	429	82	--
Other softwoods	1,175	256	301	15	--	--	--	--	--	--	43	258	96	206	--	--
Total softwoods	492,918	26,603	139,558	42,423	14,030	14,487	2,533	20,708	11,441	32,918	15,896	94,133	62,357	14,856	586	389
Hardwoods																
Select white oak	74,424	--	--	179	--	--	--	--	--	50,611	1,599	17,840	3,338	857	--	--
Select red oak	209,689	73	391	374	--	360	--	135	--	123,188	2,467	64,993	12,099	5,609	--	--
Other red oak	60,449	848	281	62	--	--	--	64	25	49,270	1,339	5,479	3,040	41	--	--
Select hickory	9,741	--	--	--	--	--	--	--	--	7,963	7	1,423	406	-58	--	--
Other hickory	4,241	--	--	--	--	--	--	--	--	1,682	74	2,945	-503	43	--	--
Basswood	83,330	--	362	--	--	57	--	--	--	4,850	2,315	73,023	2,701	22	--	--
Beech	3,770	--	--	--	--	--	--	--	--	-25	--	3,795	--	--	--	--
Yellow birch	7,198	--	--	--	-110	--	-4	21	290	--	45	6,847	109	--	--	--
Hard maple	180,208	--	188	245	146	144	--	26	--	4,266	1,386	168,744	3,880	1,183	--	--
Soft maple	145,773	144	219	595	318	--	13	439	126	10,715	33,733	88,506	8,022	2,943	--	--
Elm	3,337	--	16	-37	-175	-24	--	-79	32	2,315	-950	754	1,535	-50	--	--
Black ash	19,254	--	--	209	348	44	--	-21	--	1,271	11,145	5,843	161	43	--	211
White & green ash	63,759	--	9	76	44	--	--	117	--	5,682	12,418	43,617	1,689	107	--	--
Cottonwood	4,934	11	--	29	--	--	--	--	--	381	3,203	986	153	171	--	--
Willow	750	--	--	--	--	--	--	--	--	--	451	338	--	-111	--	72
Hackberry	1,362	--	--	--	--	--	--	--	--	571	484	307	--	--	--	--
Balsam poplar	2,456	--	--	140	10	--	--	-361	128	200	587	743	189	193	627	--
Bigtooth aspen	96,838	83	50	370	486	360	--	28	27	24,738	486	18,122	45,962	6,050	--	76
Quaking aspen	161,113	1,282	763	370	451	613	252	-207	161	6,556	8,249	33,828	103,717	4,869	136	73
Paper birch	27,397	128	353	-523	36	340	--	230	87	3,529	284	6,969	7,054	8,910	--	--
River birch	2,126	--	--	--	--	--	--	--	--	227	1,487	412	--	--	--	--
Black cherry	16,603	--	--	30	--	7	--	--	--	6,830	682	8,436	618	--	--	--
Black walnut	4,557	--	--	--	--	--	--	--	--	3,190	538	703	32	94	--	--
Butternut	-1,018	--	--	14	--	--	--	--	--	-559	-4	-454	-61	46	--	--
Other hardwoods	5,365	--	--	17	--	--	--	--	--	1,008	4,418	-78	--	--	--	--
Total hardwoods	1,187,656	2,569	2,632	2,150	1,554	1,901	261	392	876	308,459	86,443	554,121	194,141	30,962	763	432
All species	1,680,574	29,172	142,190	44,573	15,584	16,388	2,794	21,100	12,317	341,377	102,339	648,254	256,498	45,818	1,349	821

[1] International 1/4-inch rule.

Table 45.--Current net annual growth of growing stock on timberland by species group and forest type, Wisconsin, 1995

(In thousand cubic feet)

Species group	All types	Forest type														
		Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-basswood	Aspen	Paper birch	Balsam poplar	Non-stocked
Softwoods																
Jack pine	9,461	7,296	105	-180	--	--	9	21	--	1,535	60	277	345	-7	--	--
Red pine	47,599	1,598	37,853	1,215	248	25	20	9	10	2,183	47	949	2,656	786	--	--
White pine	29,253	912	2,368	7,390	386	75	162	97	522	3,455	984	8,074	3,783	1,037	--	8
White spruce	17,177	154	413	151	1,609	5,025	20	-87	85	68	478	3,686	4,973	509	48	45
Black spruce	2,153	48	23	31	88	20	1,304	-657	516	3	53	96	613	13	--	2
Balsam fir	12,986	71	165	113	2,468	15	89	-1,195	25	59	1,115	3,118	5,534	1,264	123	22
Hemlock	6,328	7	--	41	54	3	2	129	7	13	258	5,669	41	104	--	--
Tamarack	3,387	--	--	17	59	7	746	-375	2,396	42	229	22	123	83	13	25
Eastern redcedar	890	--	--	--	--	--	--	--	--	675	--	175	24	16	--	--
Northern white-cedar	8,633	--	19	-36	627	8	90	4,333	265	5	1,897	771	258	389	7	--
Other softwoods	637	264	67	12	--	--	--	--	--	24	19	128	32	91	--	--
Total softwoods	138,504	10,350	41,013	8,754	5,539	5,178	2,442	2,275	3,826	8,062	5,140	22,965	18,382	4,285	191	102
Hardwoods																
Select white oak	18,227	62	--	41	--	--	--	--	--	12,971	516	3,421	1,032	184	--	--
Select red oak	40,243	132	145	64	--	40	--	5	--	23,233	269	11,566	3,792	997	--	--
Other red oak	14,013	454	5	30	--	--	15	-5	4	10,665	244	1,414	1,101	86	--	--
Select hickory	3,284	--	--	12	--	--	--	--	--	2,660	13	531	65	3	--	--
Other hickory	3,542	--	--	--	--	--	--	--	--	1,553	49	1,828	92	20	--	--
Basswood	21,860	2	10	12	--	6	--	--	--	2,138	776	17,932	958	26	--	--
Beech	1,277	--	--	--	--	--	--	--	--	31	--	1,125	121	--	--	--
Yellow birch	1,753	--	--	--	-4	--	1	-86	10	61	260	1,272	238	1	--	--
Hard maple	62,990	4	61	13	112	13	--	--	--	2,105	631	57,252	2,289	510	--	--
Soft maple	71,372	95	234	252	305	49	35	96	205	7,524	11,820	37,524	11,130	2,103	--	--
Elm	14,354	--	-1	136	74	28	--	175	79	2,569	3,138	6,923	1,105	118	--	10
Black ash	12,708	--	--	--	226	--	--	-37	21	105	8,852	2,700	706	97	25	13
White & green ash	23,165	--	6	31	8	--	--	41	--	1,701	5,719	14,465	1,039	155	--	--
Cottonwood	1,160	4	--	9	--	--	--	--	--	126	717	212	42	50	--	--
Willow	515	--	--	--	--	--	--	--	--	11	426	63	--	-	--	15
Hackberry	420	--	--	--	--	--	--	--	--	133	160	127	--	--	--	--
Balsam poplar	894	--	--	-1	16	--	--	-171	19	44	41	186	387	97	276	--
Bigtooth aspen	20,941	110	72	40	100	48	--	7	--	4,281	216	4,232	11,219	616	--	--
Quaking aspen	63,849	824	495	188	439	133	91	-192	10	1,648	2,611	8,851	47,331	1,301	105	14
Paper birch	9,301	19	-10	-5	261	-9	30	-319	2	602	478	1,650	3,196	3,406	--	--
River birch	421	--	--	--	--	--	--	--	--	104	271	46	--	--	--	--
Tupelo	8	--	--	--	--	--	--	--	--	--	--	--	8	--	--	--
Black cherry	7,920	85	441	7	180	145	1	21	--	2,074	306	3,146	1,184	330	--	--
Black walnut	1,589	--	--	--	--	--	--	--	--	1,079	213	273	6	18	--	--
Butternut	96	--	--	--	--	--	--	--	--	124	9	-34	-13	10	--	--
Other hardwoods	4,013	--	12	3	--	--	--	--	--	1,229	2,221	455	93	--	--	--
Total softwoods	399,915	1,791	1,470	832	1,717	453	173	-465	350	78,771	39,956	177,160	87,121	10,128	406	52
All species	538,419	12,141	42,483	9,586	7,256	5,631	2,615	1,810	4,176	86,833	45,096	200,125	105,503	14,413	597	154

Table 46.--Current net annual growth of sawtimber on timberland by species group and forest type, Wisconsin, 1995

(In thousand board feet)[1]

Species group	All types	Forest type														
		Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-basswood	Aspen	Paper birch	Balsam poplar	Non-stocked
Softwoods																
Jack pine	35,598	22,411	438	-297	--	--	44	--	--	8,793	530	2,545	995	139	--	--
Red pine	197,363	9,580	147,315	6,269	1,244	137	71	19	59	10,137	192	4,266	14,402	3,672	--	--
White pine	149,787	2,965	14,234	37,376	2,033	456	585	496	2,987	13,969	5,805	43,019	20,822	4,988	--	52
White spruce	57,891	304	1,365	999	5,025	13,064	49	-796	--	247	3,034	13,279	18,178	3,143	--	--
Black spruce	2,874	392	--	-78	287	--	-145	-326	1,328	--	347	-147	1,185	31	--	--
Balsam fir	49,895	887	373	603	5,973	108	479	-962	--	78	7,269	13,011	19,122	2,182	648	124
Hemlock	34,082	46	--	429	275	22	12	388	27	78	1,579	30,643	195	388	--	--
Tamarack	7,175	--	--	566	-220	-6	612	-1,216	6,267	55	284	-374	594	373	88	152
Eastern redcedar	908	--	--	--	--	--	--	--	--	567	--	341	--	--	--	--
Northern white-cedar	25,245	--	43	-213	1,785	158	615	8,785	138	--	8,037	2,666	1,470	1,729	32	--
Other softwoods	1,456	311	401	43	--	--	--	--	--	138	43	258	160	102	--	--
Total softwoods	562,274	36,896	164,169	45,697	16,402	13,939	2,322	6,388	10,806	34,062	27,120	109,507	77,123	16,747	768	328
Hardwoods																
Select white oak	81,046	--	--	105	--	--	--	--	--	57,223	1,987	17,283	3,747	701	--	--
Select red oak	202,218	104	368	161	--	162	--	36	--	122,807	1,425	58,430	12,749	5,976	--	--
Other red oak	58,723	1,257	291	5	--	--	--	-18	23	46,475	1,475	5,517	3,530	168	--	--
Select hickory	10,079	--	--	--	--	--	--	--	--	8,402	25	1,520	183	-51	--	--
Other hickory	4,160	--	--	--	--	--	--	--	--	1,137	58	2,922	--	43	--	--
Basswood	85,303	--	325	--	--	202	--	--	--	6,077	2,405	73,849	2,379	66	--	--
Beech	4,766	--	--	--	--	--	--	--	--	74	--	4,692	--	--	--	--
Yellow birch	5,510	--	--	--	-49	--	-1	-298	290	--	894	4,617	57	--	--	--
Hard maple	197,279	--	97	--	186	60	--	--	--	4,901	1,203	185,605	3,737	1,490	--	--
Soft maple	152,255	--	237	846	512	--	13	970	58	10,963	32,920	92,318	9,611	3,807	--	--
Elm	15,809	--	16	830	299	-8	--	-150	-7	3,358	2,719	6,657	1,813	-65	--	347
Black ash	18,792	--	--	--	545	--	--	-26	--	852	12,258	4,034	245	437	--	447
White & green ash	76,983	--	31	278	44	--	--	371	--	5,482	17,515	50,818	2,333	111	--	--
Cottonwood	4,937	24	--	--	--	--	--	--	--	421	3,179	917	153	243	--	--
Willow	2,266	--	--	--	--	--	--	--	--	--	1,949	245	--	--	--	72
Hackberry	1,825	--	--	--	--	--	--	--	--	480	490	855	--	--	--	--
Balsam poplar	2,473	--	--	--	10	--	--	-674	594	123	402	759	109	4	1,146	--
Bigtooth aspen	97,197	665	22	83	173	423	--	16	3	28,624	829	19,932	42,371	4,056	--	--
Quaking aspen	169,132	1,128	241	870	989	335	386	-415	8	7,031	8,615	30,129	116,504	3,047	189	75
Paper birch	29,857	97	257	399	-1	173	--	-557	3	2,871	1,722	8,388	6,547	9,958	--	--
River birch	2,533	--	--	--	--	--	--	--	--	151	1,970	412	--	--	--	--
Black cherry	16,790	--	--	30	--	4	--	--	--	7,356	635	8,410	355	--	--	--
Black walnut	5,048	--	--	--	--	--	--	--	--	3,894	538	490	32	94	--	--
Butternut	557	--	--	--	--	--	--	--	--	171	-4	414	-70	46	--	--
Other hardwoods	6,262	--	--	17	--	--	--	--	--	989	4,280	580	396	--	--	--
Total hardwoods	1,251,800	3,275	1,885	3,624	2,708	1,351	398	-745	972	319,862	99,489	579,793	206,781	30,131	1,335	941
All species	1,814,074	40,171	166,054	49,321	19,110	15,290	2,720	5,643	11,778	353,924	126,609	689,300	283,904	46,878	2,103	1,269

[1]International 1/4-inch rule.

Table 47.--Current net annual growth, current annual mortality, and current annual removals of growing stock and sawtimber on timberland by species group, Wisconsin, 1995

Species group	Growing stock			Sawtimber		
	Current net annual growth[1]	Current annual mortality	Current annual removals[2]	Current net annual growth[1]	Current annual mortality	Current annual removals[2]
	1995	1995	1995	1995	1995	1995
	(In thousand cubic feet)			*(In thousand board feet)* [3]		
Softwoods						
Jack pine	9,461	8,043	28,249	35,598	26,005	44,712
Red pine	47,599	112	29,460	197,363	1,291	93,753
White pine	29,253	2,976	8,637	149,787	12,286	36,594
White spruce	17,177	1,725	1,895	57,891	7,254	3,772
Black spruce	2,153	3,891	1,478	2,874	4,975	2,792
Balsam fir	12,986	14,922	5,667	49,895	24,671	9,227
Hemlock	6,328	1,625	2,824	34,082	8,379	8,264
Tamarack	3,387	4,319	794	7,175	10,471	1,386
Eastern redcedar	890	--	5	908	4	21
Northern white-cedar	8,633	4,757	843	25,245	19,811	2,697
Other softwoods	637	3	--	1,456	16	--
Total softwoods	138,504	42,373	79,852	562,274	115,163	203,218
Hardwoods						
Select white oak	18,227	1,027	13,966	81,046	3,483	61,031
Select red oak	40,243	13,633	38,725	202,218	45,763	158,689
Other red oak	14,013	7,686	12,009	58,723	20,830	48,488
Select hickory	3,284	705	301	10,079	1,185	1,151
Other hickory	3,542	782	352	4,160	662	1,647
Basswood	21,860	9,308	11,078	85,303	27,583	42,775
Beech	1,277	146	319	4,766	468	1,366
Yellow birch	1,753	4,048	2,399	5,510	12,142	7,141
Hard maple	62,990	8,203	29,053	197,279	16,386	99,357
Soft maple	71,372	11,838	21,592	152,255	23,404	60,132
Elm	14,354	8,264	2,734	15,809	17,341	7,018
Black ash	12,708	4,551	3,802	18,792	8,667	10,952
White & green ash	23,165	2,107	4,047	76,983	6,202	12,732
Cottonwood	1,160	204	372	4,937	839	1,477
Willow	515	99	115	2,266	385	92
Hackberry	420	45	36	1,825	99	171
Balsam poplar	894	1,154	269	2,473	3,787	466
Bigtooth aspen	20,941	11,790	35,202	97,197	37,353	103,432
Quaking aspen	63,849	44,860	88,442	169,132	89,181	243,569
Paper birch	9,301	18,399	26,517	29,857	22,625	38,382
River birch	421	73	122	2,533	188	50
Tupelo	8	1	--	--	--	--
Black cherry	7,920	1,906	1,319	16,790	2,212	5,022
Black walnut	1,589	158	232	5,048	499	953
Butternut	96	640	48	557	2,321	230
Other hardwoods	4,013	776	584	6,262	1,468	1,013
Total hardwoods	399,915	152,403	293,634	1,251,800	345,073	907,336
All species	538,419	194,776	373,487	1,814,074	460,236	1,110,554

[1] An estimate of current gross growth may be computed by adding current mortality to current net growth.

[2] Based on data from a 1988 mill survey, a 1989-1990 logging utilization study, and land-use change estimates from the new inventory.

[3] International 1/4-inch rule.

Table 48.--Current annual removals for 1982 and 1995 and average annual removals for 1983-1995 from growing stock and sawtimber on timberland by softwoods and hardwoods, and Forest Survey Unit, Wisconsin

Forest Survey Unit and softwoods and hardwoods	Growing stock			Sawtimber		
	Current annual removals 1982 [1]	Average annual removals 1983-1995 [2]	Current annual removals 1995 [1]	Current annual removals 1982 [1]	Average annual removals 1983-1995 [2]	Current annual removals 1995 [1]
	(In thousand cubic feet)			*(In thousand board feet)* [3]		
Northeastern Unit						
Softwoods	24,760	20,232	22,570	58,711	66,640	66178
Hardwoods	77,936	71,171	90,333	217,882	181,826	259,207
Total	102,696	91,403	112,903	276,593	248,466	325,385
Northwestern Unit						
Softwoods	18,586	12,433	29,102	43,758	36,726	76,331
Hardwoods	76,817	79,441	107,963	205,810	172,851	288,892
Total	95,403	91,874	137,065	249,568	209,577	365,223
Central Unit						
Softwoods	12,991	18,895	22,581	26,899	62,734	46,448
Hardwoods	35,164	65,551	55,630	121,487	206,559	184,342
Total	48,155	84,446	78,211	148,386	269,293	230,790
Southwestern Unit						
Softwoods	2,193	409	3,476	2,672	71	8,775
Hardwoods	28,429	52,291	31,084	121,239	219,002	140,924
Total	30,622	52,700	34,560	123,911	219,073	149,699
Southeastern Unit						
Softwoods	858	657	2,123	1,612	1,578	5,486
Hardwoods	7,224	11,109	8,624	26,257	38,195	33,970
Total	8,082	11,766	10,747	27,869	39,773	39,457
All Units						
Softwoods	59,388	52,626	79,852	133,652	167,749	203,218
Hardwoods	225,570	279,563	293,634	692,675	818,433	907,336
Total	284,958	332,189	373,487	826,327	986,182	1,110,554

[1] Based on data from a mill survey and a logging utilization study for given years, and land use change estimates from the plot inventory.

[2] Average of field plot level removals between the study periods.

[3] International 1/4-inch rule.

Table 49.--Current annual mortality for 1982 and 1995 and average annual mortality for 1983-1995 of growing stock and sawtimber on timberland by softwoods and hardwoods, and Forest Survey Unit, Wisconsin

Forest Survey Unit and softwoods and hardwoods	Growing stock			Sawtimber		
	Current annual mortality	Average annual mortality	Current annual mortality	Current annual mortality	Average annual mortality	Current annual mortality
	1982	1983-1995	1995	1982	1983-1995	1995
	(In thousand cubic feet)			*(In thousand board feet)* [1]		
Northeastern Unit						
Softwoods	17,013	17,869	19,252	39,688	47,545	51,687
Hardwoods	44,780	39,499	41,013	89,141	66,386	84,477
Total	61,793	57,368	60,265	128,829	113,931	136,164
Northwestern Unit						
Softwoods	19,249	18,443	18,255	142,380	145,237	162,203
Hardwoods	61,345	48,954	52,617	117,024	375,602	388,287
Total	80,594	67,397	70,872	259,404	520,839	550,490
Central Unit						
Softwoods	1,075	5,387	3,802	3,046	14,860	10,796
Hardwoods	6,259	25,638	25,962	13,372	50,301	59,747
Total	7,334	31,025	29,764	16,418	65,161	70,543
Southwestern Unit						
Softwoods	--	529	349	--	609	758
Hardwoods	4,175	22,243	22,277	13,005	58,085	64,822
Total	4,175	22,772	22,626	13,005	58,694	65,580
Southeastern Unit						
Softwoods	187	854	745	340	2,364	2,114
Hardwoods	1,499	10,454	10,534	4,312	25,618	29,129
All species	1,686	11,308	11,279	4,652	27,982	31,243
All Units						
Softwoods	38,370	43,082	42,373	87,159	111,782	115,163
Hardwoods	118,623	146,788	152,403	237,278	280,029	345,073
All species	156,993	189,870	194,776	324,437	391,811	460,236

[1] International 1/4-inch rule.

Table 50.--Current annual timber removals of growing stock and sawtimber on timberland by species group, product, logging residue, and other removals, Wisconsin, 1995

Species group	Growing stock										
		Removals for products (items)								Nonproduct removals	
	All removals	All product removals	Saw logs	Veneer logs	Pulpwood	Composite products [1]	Fuelwood	Posts, poles & pilings	Miscel-laneous	Logging residue	Other removals
	(In thousand cubic feet)										
Softwoods											
Jack pine	28,249	27,440	2,963	--	24,121	164	163	28	1	702	107
Red pine	29,460	28,081	8,781	49	18,148	196	287	119	501	737	642
White pine	8,637	8,073	4,757	82	2,584	81	298	--	270	315	250
White spruce	1,895	1,832	154	74	1,593	4	6	--	2	62	--
Black spruce	1,478	1,370	98	34	1,233	2	3	--	--	42	66
Balsam fir	5,667	5,346	122	--	4,986	231	--	5	2	134	188
Hemlock	2,824	2,718	781	--	1,936	--	--	--	1	65	41
Tamarack	794	618	9	19	590	--	--	--	--	18	158
Eastern redcedar	5	5	5	--	--	--	--	--	--	--	--
Northern white-cedar	843	567	179	1	16	--	5	281	85	55	221
Total softwoods	79,852	76,049	17,849	260	55,206	678	761	433	862	2,131	1,672
Hardwoods											
Select white oak	13,966	11,873	8,454	452	1,597	--	1,313	8	50	1,303	790
Select red oak	38,725	34,089	21,364	1,366	5,353	--	5,955	42	10	3,382	1,253
Other red oak	12,009	10,552	6,602	416	1,854	--	1,669	10	1	1,059	398
Select hickory	301	104	92	--	--	--	11	--	--	13	185
Other hickory	352	291	281	--	--	--	11	--	--	38	22
Basswood	11,078	9,400	5,910	416	2,628	79	68	--	299	1,078	600
Beech	319	284	222	9	42	--	11	--	--	35	--
Yellow birch	2,399	2,105	756	100	1,029	1	200	--	20	188	106
Hard maple	29,053	26,368	11,181	952	11,588	110	2,538	--	--	1,816	869
Soft maple	21,592	18,958	5,805	99	10,557	869	1,590	--	40	1,386	1,248
Elm	2,734	2,336	730	--	1,174	1	431	--	--	169	229
Black ash	3,802	3,419	1,343	22	1,884	43	127	--	--	296	86
White & green ash	4,047	3,611	1,616	16	1,694	29	257	--	--	320	116
Cottonwood	372	336	220	23	85	--	7	--	--	37	--
Willow	115	34	8	--	--	--	26	--	--	1	81
Hackberry	36	31	31	--	--	--	--	--	--	4	--
Balsam poplar	269	255	15	--	90	150	--	--	--	14	--
Bigtooth aspen	35,202	32,495	5,953	678	14,317	8,770	838	8	1,930	2,353	354
Quaking aspen	88,442	82,474	13,885	1,639	41,165	22,084	2,469	7	1,223	5,070	898
Paper birch	26,517	24,685	3,411	1,111	18,894	342	907	--	20	1,591	242
River birch	122	25	--	--	--	--	25	--	--	--	97
Black cherry	1,319	914	721	69	76	1	47	--	--	116	289
Black walnut	232	211	107	34	--	--	70	--	--	21	--
Butternut	48	42	42	--	--	--	--	--	--	6	--
Other hardwoods	584	522	4	--	439	--	78	--	--	21	42
Total hardwoods	293,634	265,413	88,751	7,402	114,465	32,479	18,648	75	3,592	20,316	7,905
All species	373,487	341,463	106,600	7,663	169,671	33,158	19,409	508	4,454	22,447	9,577

(Table 50 continued on next page)

(Table 50 continued)

Species group	Sawtimber										
		Removals for products (items)								Nonproduct removals	
	All removals	All product removals	Saw logs	Veneer logs	Pulpwood	Composite products [1]	Fuelwood	Posts, poles & pilings	Miscel-laneous	Logging residue	Other removals
	(In thousand board feet) [2]										
Softwoods											
Jack pine	44,712	43,971	12,543	3	30,875	205	311	29	4	480	261
Red pine	93,753	88,313	49,579	314	34,481	372	566	170	2,830	1,906	3,534
White pine	36,594	34,337	26,861	533	4,909	154	552	--	1,329	801	1,456
White spruce	3,772	3,694	650	477	2,541	7	12	--	7	78	--
Black spruce	2,792	2,610	414	221	1,967	4	5	--	--	51	130
Balsam fir	9,227	8,850	518	--	7,952	368	--	5	7	139	238
Hemlock	8,264	8,097	4,411	--	3,678	--	--	--	7	168	--
Tamarack	1,386	1,103	36	126	941	--	--	--	--	19	264
Eastern redcedar	21	20	20	--	--	--	--	--	--	1	--
Northern white-cedar	2,697	1,448	759	7	26	--	9	289	358	147	1,102
Total softwoods	203,218	192,443	95,791	1,682	87,370	1,110	1,457	493	4,541	3,790	6,985
Hardwoods											
Select white oak	61,031	54,674	45,060	2,919	3,739	--	2,567	16	373	3,411	2,946
Select red oak	158,689	146,462	113,873	8,823	11,969	--	11,635	90	71	8,620	3,606
Other red oak	48,488	45,361	35,188	2,684	4,193	--	3,263	22	10	2,674	453
Select hickory	1,151	489	467	--	--	--	22	--	--	39	624
Other hickory	1,647	1,438	1,417	--	--	--	21	--	--	117	92
Basswood	42,775	38,067	29,845	2,687	3,707	134	134	--	1,560	2,879	1,829
Beech	1,366	1,270	1,119	59	71	--	21	--	--	96	--
Yellow birch	7,141	6,679	3,820	643	1,726	1	386	--	103	385	77
Hard maple	99,357	93,629	63,193	6,148	19,153	185	4,949	--	--	2,968	2,761
Soft maple	60,132	56,035	29,315	642	20,974	1,799	3,099	--	206	2,550	1,548
Elm	7,018	6,490	3,688	--	1,969	1	832	--	--	336	191
Black ash	10,952	10,336	6,784	141	3,094	73	244	--	--	616	--
White & green ash	12,732	11,576	8,160	105	2,763	48	499	--	--	722	434
Cottonwood	1,477	1,379	1,111	148	105	--	15	--	--	98	--
Willow	92	89	38	--	--	--	51	--	--	3	--
Hackberry	171	158	158	--	--	--	--	--	--	13	--
Balsam poplar	466	454	74	--	125	254	--	--	--	12	--
Bigtooth aspen	103,432	99,420	30,026	4,376	32,941	20,350	1,653	17	10,057	3,251	761
Quaking aspen	243,569	237,687	70,027	10,588	94,713	51,097	4,872	16	6,374	5,036	846
Paper birch	38,382	35,951	17,228	7,173	9,524	167	1,755	--	103	2,147	284
River birch	50	50	--	--	--	--	50	--	--	--	--
Black cherry	5,022	4,310	3,640	449	128	1	91	--	--	319	393
Black walnut	953	900	540	221	--	--	139	--	--	53	--
Butternut	230	212	212	--	--	--	--	--	--	18	--
Other hardwoods	1,013	837	20	--	664	1	151	--	--	11	165
Total hardwoods	907,336	853,951	465,004	47,806	211,561	74,113	36,448	162	18,857	36,373	17,011
All species	1,110,554	1,046,394	560,795	49,488	298,931	75,222	37,905	655	23,398	40,164	23,996

[1] Includes chip board, oriented strand board, particleboard, engineered lumber, etc.

[2] International 1/4-inch rule.

Table 51.--Total volume of wood fiber used for each primary product by softwoods and hardwoods, and source of material, Wisconsin, 1995

Product by softwoods and hardwoods	Standard units	Total		Roundwood products				Plant byproducts [1]	
				Growing stock		Nongrowing stock			
		Number of units	Thousand cubic feet [2]	Number of units	Thousand cubic feet	Number of units	Thousand cubic feet	Number of units	Thousand cubic feet
Saw logs									
Softwoods	Thousand	102,829	18,180	101,266	17,849	1,563	331	--	--
Hardwoods	board feet [3]	542,432	94,835	511,159	88,751	31,273	6,083	--	--
Total		645,262	113,014	612,426	106,600	32,836	6,414	--	--
Veneer logs									
Softwoods	Thousand	1,776	289	1,683	260	93	29	--	--
Hardwoods	board feet [3]	50,493	8,220	47,837	7,402	2,656	818	--	--
Total		52,269	8,509	49,520	7,663	2,749	847	--	--
Pulpwood [4]									
Softwoods	Standard	876,053	69,146	699,464	55,206	135,077	10,661	41,512	3,279
Hardwoods	Cords [5]	2,038,978	161,136	1,448,343	114,465	360,904	28,522	229,731	18,149
Total		2,915,030	230,282	2,147,806	169,671	495,981	39,183	271,243	21,428
Composite products [6]									
Softwoods	Standard	13,566	1,071	8,597	678	1,389	110	3,580	283
Hardwoods	Cords [5]	480,986	37,999	411,110	32,479	50,062	3,955	19,814	1,565
Total		494,551	39,071	419,707	33,158	51,450	4,065	23,394	1,848
Fuelwood									
Softwoods	Standard	347,083	24,296	10,871	761	38,824	2,718	297,388	20,817
Hardwoods	Cords [5]	1,998,873	139,921	266,404	18,648	773,302	54,131	959,167	67,142
Total		2,345,956	164,217	277,275	19,409	812,126	56,849	1,256,555	87,959
Posts, poles and pilings									
Softwoods	Thousand	559	559	433	433	126	126	--	--
Hardwoods	cubic feet	185	185	75	75	110	110	--	--
Total		744	744	508	508	236	236	--	--
Miscellaneous products									
Softwoods	Thousand	2,797	2,797	862	862	15	15	1,920	1,920
Hardwoods	cubic feet	22,851	22,851	3,592	3,592	10	10	19,249	19,249
Total		25,647	25,647	4,454	4,454	24	24	21,169	21,169
All products									
Softwoods	Thousand				76,049		13,988		26,299
Hardwoods	cubic feet				265,413		93,630		106,105
Total					341,463		107,618		132,404

[1] Includes coarse and fine wood residues.

[2] Column should not be added to avoid double counting volume.

[3] International 1/4-inch rule.

[4] Includes roundwood and plant byproducts for wood pulp.

[5] 128 cubic feet including bark and air space.

[6] Includes roundwood and plant byproducts for composite products.

Table 52.--Output of roundwood products by product, softwoods and hardwoods, and source of material, Wisconsin, 1995

(In thousand cubic feet)

Product by softwoods and hardwoods	All sources	Growing stock			Non-growing stock
		Total	Sawtimber	Poletimber	
Saw logs					
Softwoods	18,180	17,849	16,739	1,110	331
Hardwoods	94,835	88,751	80,430	8,322	6,083
Total	113,014	106,600	97,169	9,431	6,414
Veneer logs					
Softwoods	289	260	260	--	29
Hardwoods	8,220	7,402	7,402	--	818
Total	8,509	7,663	7,663	--	847
Pulpwood					
Softwoods	65,867	55,206	24,050	31,156	10,661
Hardwoods	142,987	114,465	57,033	57,432	28,522
Total	208,854	169,671	81,083	88,588	39,183
Composite products [1]					
Softwoods	788	678	319	359	110
Hardwoods	36,435	32,479	19,875	12,604	3,955
Total	37,222	33,158	20,194	12,963	4,065
Fuelwood					
Softwoods	3,479	761	390	371	2,718
Hardwoods	72,779	18,648	8,649	10,000	54,131
Total	76,258	19,409	9,039	10,370	56,849
Posts, poles and pilings					
Softwoods	559	433	132	300	126
Hardwoods	185	75	31	44	110
Total	744	508	164	344	236
Miscellaneous products					
Softwoods	877	862	781	81	15
Hardwoods	3,602	3,592	2,630	963	10
Total	4,478	4,454	3,411	1,044	24
All products					
Softwoods	90,038	76,049	42,673	33,376	13,988
Hardwoods	359,043	265,413	176,049	89,364	93,630
Total	449,081	341,463	218,722	122,741	107,618

[1] Includes chip board, oriented strand board, particleboard, engineered lumber, etc.

Table 53.--Timber products from roundwood by species group and product, Wisconsin, 1995

Species group	All products	Saw logs		Veneer logs		Pulpwood		Composite products [1]		Fuelwood		Posts, poles, and pilings	Misc. products
	Thousand cubic feet	Thousand cubic feet	Thousand board feet [2]	Thousand cubic feet	Thousand board feet [2]	Thousand cubic feet	Standard cords [3]	Thousand cubic feet	Standard cords [3]	Thousand cubic feet	Standard cords [3]	Thousand cubic feet	Thousand cubic feet
Softwoods													
Jack pine	34,913	3,010	14,341	1	3	30,584	387,628	208	2,636	1,078	15,406	31	1
Red pine	31,368	8,949	52,582	54	332	20,778	263,015	224	2,839	722	10,317	129	511
White pine	9,647	4,849	28,488	92	563	2,958	37,443	93	1,172	1,382	19,740	--	274
White spruce	2,021	156	743	82	504	1,766	22,405	5	59	11	156	--	2
Black spruce	1,511	99	473	38	233	1,367	17,343	3	34	5	66	--	--
Balsam fir	5,922	124	592	--	--	5,526	70,123	256	3,247	9	129	5	2
Hemlock	3,014	796	4,678	--	--	2,217	28,058	--	--	--	--	--	1
Tamarack	684	9	42	22	133	654	8,295	--	--	--	--	--	--
Eastern redcedar	5	5	23	--	--	--	--	--	--	--	--	--	--
Northern white-cedar	953	182	867	1	8	18	230	--	--	272	3,881	394	86
Total softwoods	90,038	18,180	102,829	289	1,776	65,867	834,541	788	9,986	3,479	49,694	559	877
Hardwoods													
Select white oak	17,704	8,869	50,652	502	3,083	2,054	25,965	--	--	6,210	88,708	12	57
Select red oak	53,723	22,414	128,005	1,517	9,319	6,871	86,867	--	--	22,779	325,409	132	11
Other red oak	17,053	6,926	39,555	462	2,835	2,381	30,104	--	--	7,266	103,805	16	2
Select hickory	201	108	604	--	--	--	--	--	--	93	1,335	--	--
Other hickory	506	327	1,831	--	--	--	--	--	--	179	2,561	--	--
Basswood	12,066	6,885	38,574	462	2,838	4,027	50,969	133	1,682	260	3,715	--	299
Beech	375	258	1,446	10	62	70	891	--	6	36	508	--	--
Yellow birch	3,494	881	4,937	111	679	1,722	21,797	1	16	760	10,851	--	20
Hard maple	40,304	11,713	70,098	1,057	6,494	19,240	243,545	184	2,332	8,110	115,851	--	--
Soft maple	27,028	6,763	37,889	110	678	13,654	172,635	1,127	14,242	5,335	76,208	--	40
Elm	6,671	851	4,766	--	--	1,965	24,872	1	11	3,854	55,060	--	--
Black ash	5,698	1,565	8,769	24	149	3,118	39,464	73	923	919	13,123	--	--
White & green ash	6,821	1,883	10,547	18	111	2,793	35,354	48	609	2,079	29,699	--	--
Cottonwood	416	256	1,437	25	156	123	1,555	--	--	12	167	--	--
Willow	226	9	49	--	--	--	--	--	--	217	3,102	--	--
Hackberry	37	37	205	--	--	--	--	--	--	--	--	--	--
Balsam poplar	407	17	96	--	--	137	1,730	253	3,200	--	--	--	--
Bigtooth aspen	36,709	6,026	34,512	752	4,622	15,925	201,585	9,714	122,961	2,348	33,542	13	1,930
Quaking aspen	93,750	14,054	80,491	1,821	11,183	45,789	579,611	24,496	310,079	6,355	90,785	12	1,223
Paper birch	32,092	3,975	22,267	1,233	7,576	22,291	281,828	403	5,091	4,170	59,570	--	20
River birch	149	--	--	--	--	--	--	--	--	149	2,134	--	--
Black cherry	1,307	840	4,705	77	474	127	1,614	1	14	261	3,734	--	--
Black walnut	516	124	697	38	234	--	--	--	--	353	5,046	--	--
Butternut	49	49	274	--	--	--	--	--	--	--	--	--	--
Other hardwoods	1,512	5	26	--	--	696	8,808	1	7	811	11,589	--	--
Noncommercial species	228	--	--	--	--	4	54	--	--	224	3,202	--	--
Total hardwoods	359,043	94,835	542,432	8,220	50,493	142,987	1,809,246	36,435	461,172	72,779	1,039,706	185	3,602
All species	449,081	113,014	645,262	8,509	52,269	208,854	2,643,787	37,222	471,158	76,258	1,089,400	744	4,478

[1] Includes chip board, oriented strand board, particleboard, engineered lumber, etc.

[2] International 1/4-inch rule.

[3] 128 cubic feet including bark and air space.

Table 54.--All live tree biomass on timberland by species group and forest type, Wisconsin, 1996

(In green tons)

Species group	All types	Forest type														
		Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-basswood	Aspen	Paper birch	Balsam poplar	Non-stocked
Softwoods																
Jack pine	14,857,349	8,720,477	1,290,325	340,578	--	--	19,909	7,534	1,270	2,384,216	60,246	436,902	1,353,540	242,352	--	--
Red pine	33,866,977	1,149,945	24,901,924	1,413,726	226,258	17,210	22,844	18,290	29,543	1,594,503	39,561	1,240,394	2,243,562	968,772	--	445
White pine	31,704,968	497,697	2,263,361	9,389,409	406,678	53,154	156,717	401,481	608,202	2,791,398	1,036,083	9,962,107	3,228,107	879,404	--	31,170
White spruce	9,288,364	59,544	330,851	111,250	854,010	2,972,340	11,165	376,380	70,202	24,895	311,153	1,929,048	1,962,398	255,395	11,810	7,923
Black spruce	10,017,322	60,423	34,838	36,447	573,054	83,617	5,692,899	913,264	1,396,917	13,130	234,512	256,251	672,866	34,727	--	14,377
Balsam fir	26,705,716	185,875	349,607	208,123	5,893,085	231,058	326,548	2,116,031	171,891	37,944	2,582,318	6,807,625	5,747,616	1,900,685	123,418	23,892
Hemlock	19,238,813	16,489	1,363	146,618	214,066	13,341	10,203	528,964	33,297	77,119	672,632	17,087,168	195,376	242,177	--	--
Tamarack	12,763,371	560	--	28,794	488,924	56,859	1,914,474	694,660	7,465,362	108,371	1,021,916	436,306	296,468	170,984	41,142	38,551
Eastern redcedar	587,540	684	309	--	--	--	--	--	--	459,075	716	73,164	26,947	26,645	--	--
Northern white-cedar	23,374,075	--	40,391	50,585	1,209,901	34,401	196,453	14,045,317	284,451	5,667	3,317,219	3,191,488	453,578	508,258	36,366	--
Other softwoods	636,211	180,306	121,174	24,525	--	--	--	--	--	22,606	16,844	74,980	93,559	102,217	--	--
Total softwoods	183,040,706	10,872,000	29,334,143	11,750,055	9,865,976	3,461,980	8,351,212	19,101,921	10,061,135	7,518,924	9,293,200	41,495,433	16,274,017	5,331,616	212,736	116,358
Hardwoods																
Select white oak	61,859,106	197,424	110,874	154,891	1,244	--	22,508	--	--	44,450,903	1,517,251	11,962,732	2,693,087	748,192	--	--
Select red oak	104,253,712	345,593	596,013	288,447	958	171,549	28,790	89,095	--	61,677,922	1,014,140	30,487,077	6,839,968	2,702,962	11,198	--
Other red oak	50,664,291	1,136,991	975,317	505,329	--	--	16,948	36,303	12,308	40,709,502	647,619	4,176,072	2,277,197	161,578	9,127	--
Select hickory	8,565,123	168	--	22,778	--	--	--	--	--	6,959,829	35,927	1,269,996	165,851	110,574	--	--
Other hickory	6,043,794	168	1,510	8,899	--	--	--	127	--	2,669,519	138,878	3,059,008	58,745	106,940	--	--
Basswood	44,747,872	8,566	22,000	65,719	--	19,601	--	--	--	3,687,101	1,156,007	38,490,189	1,208,122	90,567	--	--
Beech	2,962,395	--	674	--	--	--	--	--	--	78,009	3,011	2,806,098	74,410	193	--	--
Yellow birch	20,278,191	--	206	4,432	195,297	20,389	43,827	676,423	102,498	81,820	2,324,017	16,322,722	433,193	72,664	703	--
Hard maple	145,682,660	10,997	214,656	74,039	356,896	90,928	--	6,636	--	4,863,040	1,311,081	134,069,036	3,737,940	946,070	1,341	--
Soft maple	122,064,661	93,117	406,517	562,921	725,459	54,143	133,000	521,073	368,015	11,651,986	21,951,207	68,786,885	13,124,717	3,674,978	10,643	--
Elm	20,886,585	151	60,732	102,203	41,762	32,935	--	92,870	51,840	4,600,240	3,580,199	10,750,737	1,323,094	230,071	--	19,751
Black ash	27,238,671	158	--	13,823	472,374	2,316	184	1,067,404	42,048	438,501	15,928,646	7,837,778	990,607	413,739	9,418	21,675
White & green ash	28,412,220	--	13,925	55,890	15,680	5,981	--	71,834	2,194	2,340,839	6,720,593	18,082,158	914,471	187,832	823	--
Cottonwood	2,408,403	10,884	29,116	8,983	--	--	--	--	--	274,239	1,270,333	621,164	65,651	128,033	--	--
Willow	2,127,943	--	--	--	--	--	--	65	428	8,141	1,180,476	924,869	1,287	162	--	12,515
Hackberry	687,168	--	--	--	--	--	--	--	--	256,360	127,803	303,005	--	--	--	--
Balsam poplar	2,659,258	--	6,243	15,212	48,074	234	--	248,297	31,218	55,902	605,672	422,376	510,748	174,542	540,740	--
Bigtooth aspen	37,838,634	100,481	164,394	132,470	151,679	93,683	--	17,963	10,761	8,892,795	374,427	8,236,722	18,390,883	1,272,376	--	--
Quaking aspen	99,565,296	921,939	917,831	616,402	1,644,645	356,661	259,042	417,879	55,974	4,787,781	4,646,618	20,728,965	60,909,854	3,160,876	126,487	14,342
Paper birch	48,881,474	121,604	357,822	428,178	853,388	255,417	73,913	1,012,770	125,836	5,298,724	2,207,443	14,058,964	9,009,814	15,068,868	8,733	--
River birch	780,919	--	--	--	--	--	--	--	--	212,721	536,568	31,630	--	--	--	--
Tupelo	15,550	--	--	--	--	--	--	--	--	--	--	--	15,550	--	--	--
Black cherry	15,058,014	58,862	272,174	60,563	123,749	50,681	14,102	32,340	5,357	5,043,760	866,071	6,657,506	1,588,487	284,362	--	--
Black walnut	3,131,704	--	--	--	--	--	--	--	--	2,306,845	170,246	620,835	15,308	18,470	--	--
Butternut	1,947,774	--	--	--	--	--	--	--	--	920,079	63,495	862,472	58,263	43,465	--	--
Other hardwoods	7,047,597	843	26,910	20,901	--	--	--	25,703	--	1,627,444	3,651,819	1,471,387	157,987	61,955	2,648	--
Total hardwoods	865,809,015	3,007,946	4,176,914	3,142,080	4,631,205	1,154,518	592,314	4,316,782	808,477	213,894,002	72,029,547	403,040,383	124,565,234	29,659,469	721,861	68,283
Noncommercial spp.	8,876,000	5,416	11,735	43,654	21,218	1,133	--	10,339	936	2,242,613	435,101	5,014,666	918,224	161,929	9,036	--
All species	1,057,725,721	13,885,362	33,522,792	14,935,789	14,497,181	4,616,498	8,943,526	23,418,703	10,869,612	221,412,926	81,757,848	444,535,816	140,839,251	35,153,014	943,633	184,641

Table 55.--All live tree biomass on timberland by species group and tree biomass component, Wisconsin, 1996

(In green tons)

Species group	All components	All live 1-5-inch trees	Biomass component					
			Growing-stock trees			Non-growing-stock trees		
			Stumps	Boles	Tops and limbs	Stumps	Boles	Tops and limbs
Softwoods								
Jack pine	14,857,349	1,475,572	809,812	10,547,326	1,298,091	47,655	603,851	75,042
Red pine	33,866,977	1,723,096	1,854,604	26,842,153	3,146,816	20,017	248,461	31,830
White pine	31,704,968	1,050,174	1,501,335	25,154,044	2,653,632	78,778	1,142,100	124,905
White spruce	9,288,364	863,548	566,353	5,990,991	1,634,028	17,396	167,302	48,746
Black spruce	10,017,322	4,134,135	387,302	4,068,628	1,359,895	4,380	47,471	15,511
Balsam fir	26,705,716	7,691,584	1,404,506	12,970,150	4,121,189	37,889	370,183	110,215
Hemlock	19,238,813	462,085	1,072,428	12,952,312	3,036,752	111,950	1,286,692	316,594
Tamarack	12,763,371	2,449,757	666,778	8,092,230	1,037,305	33,063	433,399	50,839
Eastern redcedar	587,540	190,068	15,864	174,101	54,585	9,688	110,245	32,989
Northern white-cedar	23,374,075	2,235,943	1,686,365	11,988,509	3,525,234	377,482	2,784,421	776,121
Other softwoods	636,211	76,635	31,215	334,578	100,322	6,362	67,243	19,856
Total softwoods	183,040,706	22,352,597	9,996,562	119,115,022	21,967,849	744,660	7,261,368	1,602,648
Hardwoods								
Select white oak	61,859,106	2,066,275	2,899,930	33,608,312	10,001,092	792,996	9,822,291	2,668,210
Select red oak	104,253,712	2,175,312	4,863,309	66,991,016	19,586,237	558,829	7,916,009	2,163,000
Other red oak	50,664,291	1,904,714	2,245,595	26,036,380	8,047,460	760,167	8,987,505	2,682,470
Select hickory	8,565,123	733,885	418,641	4,922,848	1,596,980	53,490	635,209	204,070
Other hickory	6,043,794	881,595	285,638	3,081,824	1,090,036	41,341	499,998	163,362
Basswood	44,747,872	2,291,915	2,093,908	27,973,896	8,830,340	191,209	2,611,793	754,811
Beech	2,962,395	252,200	119,667	1,666,753	488,112	24,060	313,871	97,732
Yellow birch	20,278,191	1,444,916	867,195	9,805,478	3,128,105	317,864	3,587,299	1,127,334
Hard maple	145,682,660	13,868,712	5,864,477	80,864,468	26,238,096	955,236	13,709,059	4,182,612
Soft maple	122,064,661	14,995,597	4,814,951	62,681,934	21,405,907	954,555	13,028,383	4,183,334
Elm	20,886,585	4,233,875	927,510	9,003,106	3,111,186	249,594	2,528,314	833,000
Black ash	27,238,671	4,990,055	1,408,978	13,756,425	4,904,449	151,320	1,505,461	521,983
White & green ash	28,412,220	2,532,967	1,244,741	16,570,588	5,341,047	146,346	1,955,357	621,174
Cottonwood	2,408,403	21,918	128,106	1,544,806	395,238	17,816	245,535	54,984
Willow	2,127,943	27,447	59,441	631,581	174,602	60,788	998,449	175,635
Hackberry	687,168	154,581	27,052	310,775	100,553	6,313	66,821	21,073
Balsam poplar	2,659,258	238,917	88,663	1,618,686	518,567	7,708	141,165	45,552
Bigtooth aspen	37,838,634	4,125,365	1,172,634	23,427,481	5,670,420	130,570	2,690,384	621,780
Quaking aspen	99,565,296	15,757,462	3,355,890	53,816,028	13,833,490	563,637	9,905,091	2,333,698
Paper birch	48,881,474	4,931,951	2,036,584	27,575,287	9,840,123	229,455	3,170,292	1,097,782
River birch	780,919	35,453	33,486	424,605	144,465	7,513	105,058	30,339
Tupelo	15,550	--	823	10,966	3,761	--	--	--
Black cherry	15,058,014	3,330,679	422,564	5,818,895	2,003,404	185,442	2,436,992	860,038
Black walnut	3,131,704	129,906	109,800	1,599,191	487,305	40,677	592,688	172,137
Butternut	1,947,774	52,276	51,556	781,132	238,529	39,164	599,724	185,393
Other hardwoods	7,047,597	1,123,065	179,964	1,899,742	676,668	201,946	2,226,230	739,982
Total hardwoods	865,809,015	82,301,038	35,721,103	476,422,203	147,856,172	6,688,036	90,278,978	26,541,485
Noncommercial spp.	8,876,000	5,754,630	--	--	--	228,346	2,060,878	832,146
All species	1,057,725,721	110,408,265	45,717,665	595,537,225	169,824,021	7,661,042	99,601,224	28,976,279

Table 56.--Sampling errors[1] for Forest Survey Unit and county totals of area of timberland, volume, average net annual growth, and average annual removals on timberland, Wisconsin, 1996

(Sampling error in percent)

Forest Survey Unit and county	Area	Growing stock			Sawtimber		
		Volume	Average net annual growth	Average annual removals	Volume	Average net annual growth	Average annual removals
Northeastern Unit							
Florence	2.47	5.62	9.96	30.59	7.56	12.17	27.30
Forest	1.70	3.94	7.30	19.85	5.67	8.63	20.79
Langlade	2.00	4.87	8.38	20.42	7.32	10.07	21.84
Lincoln	2.02	5.55	8.40	27.44	8.88	11.16	32.18
Menominee	2.74	4.86	12.06	25.57	5.53	11.68	21.55
Marinette	1.58	4.04	7.30	25.74	5.99	9.37	34.26
Oconto	2.06	4.94	8.09	28.42	7.20	8.99	35.29
Oneida	1.69	4.58	7.47	18.45	6.45	9.17	22.02
Shawano	2.44	5.38	9.75	28.99	7.81	11.05	24.87
Vilas	1.89	4.31	8.08	28.31	5.70	8.63	29.16
Total	0.62	1.49	2.65	7.67	2.08	3.12	8.06
Northwestern Unit							
Ashland	1.74	4.20	8.84	19.75	5.78	9.58	20.56
Barron	3.19	7.78	13.64	32.92	9.89	14.94	30.86
Bayfield	1.42	3.49	6.14	14.09	4.92	7.01	15.20
Burnett	2.25	5.94	10.27	26.40	8.00	12.03	25.70
Douglas	1.56	4.56	7.92	21.69	6.81	10.41	25.44
Iron	1.88	4.36	9.41	25.69	6.01	10.32	25.08
Polk	2.53	6.75	12.40	27.73	9.15	14.18	24.61
Price	1.61	4.21	6.77	16.80	6.03	8.73	18.18
Rusk	2.03	5.01	8.88	15.07	6.81	10.47	16.59
Sawyer	1.56	3.77	6.74	13.54	5.12	7.43	13.41
Taylor	2.02	4.92	7.96	22.07	7.12	10.06	26.94
Washburn	2.08	5.22	9.00	20.18	7.73	10.93	21.95
Total	0.54	1.35	2.41	5.52	1.88	2.83	5.80
Central Unit							
Adams	1.89	6.56	11.57	33.18	8.96	13.83	40.89
Chippewa	1.99	5.89	10.59	20.16	8.96	12.77	21.03
Clark	1.68	5.65	10.43	18.16	7.74	13.1	19.7
Eau Claire	2.36	8.49	14.83	23.35	12.81	18.31	25.34
Jackson	1.58	5.44	10.36	18.88	7.66	11.24	20.6
Juneau	1.83	6.27	10.89	23.92	8.88	12.62	28.03
Marathon	1.56	4.58	8.17	24.44	6.74	11.42	26.52
Marquette	3.08	10.86	20.81	35.01	14.69	24.4	32.26
Monroe	1.82	5.83	11.86	24.17	7.73	13.6	25.48
Portage	2.28	6.61	11.33	24.67	9.38	13.31	24.87
Waupaca	2.24	5.74	12.11	35.42	7.2	12.48	35.8
Waushara	2.66	7.91	13.98	26.26	11.36	15.23	26.84
Wood	2.05	6.78	12.47	23.42	9.38	13.27	21.18
Total	0.55	1.73	3.19	6.64	2.42	3.75	6.97

(Table 56 continued on next page)

(Table 56 continued)

(Sampling error in percent)

Forest Survey Unit and county	Area	Growing stock			Sawtimber		
		Volume	Average net annual growth	Average annual removals	Volume	Average net annual growth	Average annual removals
Southwestern Unit							
Buffalo	1.8	6.73	14.73	48.65	9.6	16.71	49.02
Crawford	1.83	7.26	13.7	38.93	9.93	15.83	43.61
Dunn	1.81	7.52	14.07	48.75	10.93	14.88	48.25
Grant	1.76	7.23	14.43	59.04	10.41	20.54	61.59
Iowa	2.09	8.58	15.83	105.87	11.9	17.38	112.63
La Crosse	2.1	8.29	15.66	42.23	12.27	18.91	44.11
Lafayette	3.94	17.24	31.77	--	23.43	40.94	--
Pepin	3.22	13.41	27.92	154.34	17.73	31.29	155.55
Pierce	2.5	11.24	22.03	124.15	15.55	24.94	135.46
Richland	1.89	7.22	14.48	44.34	9.99	16.8	48.48
St. Croix	2.79	10.55	21.2	177.28	13.78	23.07	352.67
Sauk	1.81	6.55	12.98	53.12	8.96	15.07	54.42
Trempealeau	1.87	7.64	13.42	49.34	11.03	17.56	53.39
Vernon	1.64	6.78	13.64	35.84	9.22	16.54	36.56
Total	0.54	2.17	4.22	14.69	3.03	4.97	15.44
Southeastern Unit							
Brown	1.68	16.05	29.68	88.25	23.06	33.21	--
Calumet	2.71	23.95	39.92	--	30.97	49.35	--
Columbia	1.15	9.62	15.45	30.6	14.95	21.76	30.53
Dane	1.28	11.18	24.84	39.97	14.35	31.79	41.83
Dodge	1.81	18.2	33.06	180.69	25.45	52.62	159.55
Door	1.11	9.51	20.12	37.3	14.01	21.28	42.9
Fond du Lac	1.98	17.93	34.65	277.27	25.31	41.2	--
Green	1.79	17.05	29.03	--	22.83	29.95	--
Green Lake	2.08	20.14	36.38	--	26.37	36.88	--
Jefferson	1.66	19.31	30.48	48.7	26.39	40.82	46.81
Kenosha	2.33	24.37	53.55	51.81	30.64	46.04	53.29
Kewaunee	1.7	12.88	33.13	91.93	18.37	34.49	133.97
Manitowoc	1.39	11.27	18.98	--	15.51	27.17	--
Milwaukee	4.01	28.46	44.86	--	48.9	52.16	--
Outagamie	1.39	13.03	23.52	87.68	19.48	27.15	96.49
Ozaukee	2.63	22.34	41.1	--	30.84	94.61	--
Racine	2.63	21.08	46.59	--	26.43	71.72	--
Rock	1.91	15.91	34.08	--	19.84	35.81	--
Sheboygan	1.45	11.86	22.02	62.05	17.39	22.47	54.74
Walworth	1.82	15.66	35.43	--	19.52	34.65	--
Washington	1.58	15.5	33.22	--	21.99	31.67	--
Waukesha	1.84	18.36	27.95	61.55	24.9	32.71	60.21
Winnebago	2.54	21.3	34.65	39.89	32.95	38.49	43.86
Total	0.35	3.14	5.88	14.46	4.38	6.91	15.2
All counties	0.28	0.78	1.42	3.54	1.09	1.67	3.72

[1]Sampling error is not calculated when the estimated removals is equal to 0.

Table 57.--Area of timberland by forest type, stand-age class, and Forest Survey Unit, Wisconsin, 1996

(In thousand acres)

Forest Survey Unit and forest type	All classes	Stand-age class (years)							
		1 - 20	21 - 40	41 - 60	61 - 80	81 - 100	101 -120	121 -140	141+
Northeastern Unit									
Jack pine	82.9	14.6	35.1	25.1	4.6	3.5	--	--	--
Red pine	171.2	42.5	46.1	69.7	3.5	8.8	0.6	--	--
White pine	66.7	0.9	9.3	11.5	12.9	19.0	10.6	--	2.5
Balsam fir	158.3	34.7	29.8	45.4	37.2	4.4	2.1	4.7	--
White spruce	31.6	0.8	10.3	17.1	3.4	--	--	--	--
Black spruce	180.7	14.3	38.5	82.8	35.1	8.8	1.2	--	--
Northern white-cedar	186.9	2.5	1.6	51.9	60.8	31.0	21.3	11.1	6.7
Tamarack	95.7	2.7	10.6	43.3	25.8	13.3	--	--	--
Oak-hickory	166.7	12.8	24.2	59.8	42.1	13.6	10.5	3.7	--
Elm-ash-soft maple	243.1	46.7	41.1	81.5	48.7	23.3	1.8	--	--
Maple-beech-birch	1,607.5	109.0	149.9	582.1	454.8	167.1	86.2	34.9	23.5
Aspen	1,004.7	370.9	288.8	244.4	77.9	19.1	3.6	--	--
Paper birch	174.0	12.0	36.2	63.3	52.1	7.0	3.4	--	--
Balsam poplar	7.2	5.6	--	1.6	--	--	--	--	--
Nonstocked	8.3	0.8	--	--	0.1	3.0	--	2.5	1.9
All forest types	4,185.5	670.8	721.5	1,379.5	859.0	321.9	141.3	56.9	34.6
Northwestern Unit									
Jack pine	133.6	10.7	47.8	54.9	11.3	8.9	--	--	--
Red pine	192.4	83.6	48.8	44.2	12.7	3.1	--	--	--
White pine	25.0	--	--	14.7	2.1	8.2	--	--	--
Balsam fir	138.6	35.2	36.3	43.2	18.9	3.7	--	1.3	--
White spruce	41.4	15.7	9.3	13.5	2.9	--	--	--	--
Black spruce	136.6	1.5	25.1	78.6	26.8	4.6	--	--	--
Northern white-cedar	96.3	--	1.5	15.2	19.3	26.8	13.0	13.5	7.0
Tamarack	146.3	2.4	33.3	46.5	39.5	19.6	5.0	--	--
Oak-hickory	514.2	67.7	59.2	177.2	147.0	51.2	11.9	--	--
Elm-ash-soft maple	465.1	37.1	71.6	197.9	93.2	40.7	16.8	7.8	--
Maple-beech-birch	1,910.8	148.0	248.1	724.7	553.4	159.0	51.2	23.0	3.4
Aspen	1,385.0	482.0	398.5	370.0	114.1	20.4	--	--	--
Paper birch	185.9	28.5	26.8	96.4	20.9	13.3	--	--	--
Balsam poplar	21.4	9.3	5.8	6.3	--	--	--	--	--
Nonstocked	21.5	10.5	3.4	4.3	3.3	--	--	--	--
All forest types	5,414.1	932.2	1,015.5	1,887.6	1,065.4	359.5	97.9	45.6	10.4
Central Unit									
Jack pine	168.0	32.4	94.7	31.6	9.3	--	--	--	--
Red pine	176.4	57.3	97.5	20.1	1.5	--	--	--	--
White pine	67.4	9.1	14.0	14.3	21.7	4.8	3.5	--	--
Balsam fir	10.7	3.5	7.2	--	--	--	--	--	--
White spruce	4.7	--	4.7	--	--	--	--	--	--
Black spruce	13.1	--	5.1	--	2.4	2.2	3.4	--	--
Northern white-cedar	5.3	--	--	5.3	--	--	--	--	--
Tamarack	45.0	--	20.1	16.6	8.3	--	--	--	--
Oak-hickory	981.9	73.9	123.6	303.1	300.7	133.6	26.4	20.6	--
Elm-ash-soft maple	344.0	64.1	81.4	125.3	43.9	26.7	--	2.6	--
Maple-beech-birch	773.0	88.9	164.6	277.7	140.2	80.8	12.8	2.6	5.4
Aspen	372.1	122.2	136.2	90.7	22.2	0.8	--	--	--
Paper birch	65.5	18.2	12.2	30.5	3.7	--	--	--	0.9
Nonstocked	15.0	12.9	2.1	--	--	--	--	--	--
All forest types	3,042.1	482.5	763.4	915.2	553.9	248.9	46.1	25.8	6.3

(Table 57 continued on next page)

(Table 57 continued)

Forest Survey Unit and forest type	All classes	Stand-age class (years) 1 - 20	21 - 40	41 - 60	61 - 80	81 - 100	101 - 120	121 -140	141+
Southwestern Unit									
Jack pine	2.5	2.4	0.1	--	--	--	--	--	--
Red pine	38.2	5.7	32.5	--	--	--	--	--	--
White pine	19.9	5.3	11.0	--	--	3.6	--	--	--
White spruce	3.2	1.7	1.5	--	--	--	--	--	--
Oak-hickory	965.8	35.7	149.9	299.2	293.1	131.9	25.5	27.6	2.9
Elm-ash-soft maple	222.7	30.5	90.9	71.7	17.0	12.6	--	--	--
Maple-beech-birch	640.0	109.3	184.6	165.5	121.5	44.4	12.9	1.2	0.6
Aspen	85.6	16.3	20.8	44.0	3.6	0.9	--	--	--
Paper birch	42.9	5.0	10.8	13.6	9.3	4.2	--	--	--
Balsam poplar	0.5	--	0.5	--	--	--	--	--	--
Nonstocked	5.8	4.9	--	0.9	--	--	--	--	--
All forest types	2,027.1	216.8	502.6	594.9	444.5	197.6	38.4	28.8	3.5
Southeastern Unit									
Jack pine	0.4	--	0.4	--	--	--	--	--	--
Red pine	24.6	0.5	22.0	2.1	--	--	--	--	--
White pine	12.5	7.0	1.9	3.6	--	--	--	--	--
Balsam fir	1.8	--	--	1.4	0.4	--	--	--	--
Northern white-cedar	30.8	--	8.8	8.5	4.2	9.3	--	--	--
Tamarack	14.9	4.7	3.6	2.5	4.1	--	--	--	--
Oak-hickory	256.9	21.9	39.3	30.2	56.8	60.1	32.8	12.4	3.4
Elm-ash-soft maple	253.9	48.0	88.0	62.8	39.2	9.0	2.7	--	4.2
Maple-beech-birch	368.4	51.2	94.8	69.4	61.7	64.9	15.6	5.3	5.5
Aspen	38.3	5.2	13.1	14.9	3.1	2.0	--	--	--
Paper birch	25.4	3.2	9.9	4.9	3.0	2.0	--	--	2.4
Nonstocked	5.8	3.1	2.7	--	--	--	--	--	--
All forest types	1,033.7	144.8	284.5	200.3	172.5	147.3	51.1	17.7	15.5
All Units									
Jack pine	387.4	60.1	178.1	111.6	25.2	12.4	--	--	--
Red pine	602.8	189.6	246.9	136.1	17.7	11.9	0.6	--	--
White pine	191.5	22.3	36.2	44.1	36.7	35.6	14.1	--	2.5
Balsam fir	309.4	73.4	73.3	90.0	56.5	8.1	2.1	6.0	--
White spruce	80.9	18.2	25.8	30.6	6.3	--	--	--	--
Black spruce	330.4	15.8	68.7	161.4	64.3	15.6	4.6	--	--
Northern white-cedar	319.3	2.5	11.9	80.9	84.3	67.1	34.3	24.6	13.7
Tamarack	301.9	9.8	67.6	108.9	77.7	32.9	5.0	--	--
Oak-hickory	2885.5	212.0	396.2	869.5	839.7	390.4	107.1	64.3	6.3
Elm-ash-soft maple	1528.8	226.4	373.0	539.2	242.0	112.3	21.3	10.4	4.2
Maple-beech-birch	5299.7	506.4	842.0	1,819.4	1,331.6	516.2	178.7	67.0	38.4
Aspen	2885.7	996.6	857.4	764.0	220.9	43.2	3.6	--	--
Paper birch	493.7	66.9	95.9	208.7	89.0	26.5	3.4	--	3.3
Balsam poplar	29.1	14.9	6.3	7.9	--	--	--	--	--
Nonstocked	56.4	32.2	8.2	5.2	3.4	3.0	--	2.5	1.9
All forest types	15,702.50	2,447.1	3,287.5	4,977.5	3,095.3	1,275.2	374.8	174.8	70.3

Table 58.--Area of timberland by forest type, site-index class, and Forest Survey Unit, Wisconsin, 1996

(In thousand acres)

Forest Survey Unit and forest type	All classes	Site-index class (height in feet of dominant and codominant site trees at 50 years of age)								
		11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91+
Northeastern Unit										
Jack pine	82.9	--	--	3.6	8.3	9.0	33.9	16.5	9.6	2.0
Red pine	171.2	--	--	7.0	4.4	23.3	51.1	29.4	48.3	7.7
White pine	66.7	--	--	--	6.5	12.7	16.3	13.7	9.5	8.0
Balsam fir	158.3	--	2.8	26.9	38.2	53.1	17.8	15.1	0.8	3.6
White spruce	31.6	--	--	--	8.7	2.5	9.9	4.4	--	6.1
Black spruce	180.7	4.0	41.8	58.0	51.6	23.8	1.5	--	--	--
Northern white-cedar	186.9	3.3	41.1	47.6	45.4	25.1	16.6	4.6	3.2	--
Tamarack	95.7	--	4.2	39.1	23.6	15.8	10.3	--	2.4	0.3
Oak-hickory	166.7	--	--	--	6.6	36.6	51.2	49.0	23.3	--
Elm-ash-soft maple	243.1	--	--	25.5	57.6	71.1	49.0	21.6	18.3	--
Maple-beech-birch	1,607.5	--	--	7.6	64.6	289.5	545.0	465.5	184.2	51.1
Aspen	1,004.7	--	3.3	5.4	38.9	151.8	247.3	392.6	131.1	34.3
Paper birch	174.0	--	1.0	0.7	8.1	49.2	50.4	41.4	16.6	6.6
Balsam poplar	7.2	--	--	--	2.9	--	--	2.5	1.8	--
Nonstocked	8.3	--	--	0.1	2.5	1.9	0.8	--	--	--
All forest types	4,185.5	10.3	94.2	221.5	367.9	765.4	1,101.1	1,056.3	449.1	119.7
Northwestern Unit										
Jack pine	133.6	--	--	--	12.0	26.6	80.9	14.1	--	--
Red pine	192.4	--	3.4	13.2	15.1	25.9	73.7	49.8	7.9	3.4
White pine	25.0	--	--	0.3	--	5.7	5.1	13.9	--	--
Balsam fir	138.6	--	1.3	9.4	24.7	40.3	41.1	11.4	10.4	--
White spruce	41.4	--	--	--	10.0	7.4	11.6	7.8	--	4.6
Black spruce	136.6	0.8	29.5	48.0	29.7	22.3	3.9	2.4	--	--
Northern white-cedar	96.3	5.2	5.3	24.6	29.0	16.0	16.2	--	--	--
Tamarack	146.3	--	19.8	30.0	40.5	23.7	25.3	7.0	--	--
Oak-hickory	514.2	--	--	7.2	75.9	133.3	137.4	105.0	45.3	10.1
Elm-ash-soft maple	465.1	1.9	5.9	52.1	110.2	115.7	88.6	64.5	26.2	--
Maple-beech-birch	1,910.8	--	--	9.7	92.0	446.7	663.5	476.5	174.7	47.7
Aspen	1,385.0	--	--	5.6	33.2	216.0	413.8	403.1	229.4	83.9
Paper birch	185.9	--	--	5.4	12.7	50.2	51.1	50.3	15.1	1.1
Balsam poplar	21.4	--	--	--	0.2	2.2	9.8	6.2	3.0	--
Nonstocked	21.5	--	--	6.0	--	7.2	3.1	3.8	--	1.4
All forest types	5,414.1	7.9	65.2	211.5	485.2	1,139.2	1,625.1	1,215.8	512.0	152.2
Central Unit										
Jack pine	168.0	--	--	0.6	18.2	53.8	49.6	26.6	17.9	1.3
Red pine	176.4	--	--	0.8	4.2	20.7	53.6	37.6	53.3	6.2
White pine	67.4	--	--	--	12.1	3.8	25.0	7.3	14.5	4.7
Balsam fir	10.7	--	--	--	--	--	10.7	--	--	--
White spruce	4.7	--	--	--	--	1.6	3.0	0.1	--	--
Black spruce	13.1	--	3.4	8.6	--	1.1	--	--	--	--
Northern white-cedar	5.3	--	3.2	--	--	2.1	--	--	--	--
Tamarack	45.0	--	--	4.2	29.0	9.8	2.0	--	--	--
Oak-hickory	981.9	--	--	13.4	99.4	275.7	296.9	192.8	71.9	31.8
Elm-ash-soft maple	344.0	--	--	3.0	39.1	85.9	100.1	69.2	35.1	11.6
Maple-beech-birch	773.0	--	--	0.8	22.4	123.7	211.1	237.0	117.5	60.5
Aspen	372.1	--	--	--	9.8	57.6	136.4	110.3	44.7	13.3
Paper birch	65.5	--	--	--	2.8	4.0	32.7	18.9	7.0	0.1
Nonstocked	15.0	--	--	3.2	2.3	2.1	4.0	1.3	2.1	--
All forest types	3,042.1	--	6.6	34.6	239.3	641.9	925.1	701.1	364.0	129.5

(Table 58 continued on next page)

(Table 58 continued)

Forest Survey Unit and forest type	All classes	Site-index class (height in feet of dominant and codominant site trees at 50 years of age)								
		11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91+
Southwestern Unit										
Jack pine	2.5	--	--	--	--	--	--	0.1	--	2.4
Red pine	38.2	--	--	--	--	2.4	4.2	30.4	1.2	--
White pine	19.9	--	--	--	4.6	--	4.9	3.9	5.1	1.4
White spruce	3.2	--	--	1.7	--	--	--	1.5	--	--
Oak-hickory	965.8	--	--	12.7	71.0	135.2	305.0	245.2	130.3	66.4
Elm-ash-soft maple	222.7	--	--	2.3	16.2	34.8	29.8	60.5	38.2	40.9
Maple-beech-birch	640.0	--	--	1.5	17.9	58.4	130.2	196.1	138.0	97.9
Aspen	85.6	--	--	--	3.6	2.9	21.4	28.2	18.8	10.7
Paper birch	42.9	--	--	--	5.3	3.2	3.8	15.5	13.7	1.4
Balsam poplar	0.5	--	--	--	--	--	--	--	0.5	--
Nonstocked	5.8	--	--	--	--	2.1	0.9	1.2	1.6	--
All forest types	2,027.1	--	--	18.2	118.6	239.0	500.2	582.6	347.4	221.1
Southeastern Unit										
Jack pine	0.4	--	--	0.4	--	--	--	--	--	--
Red pine	24.6	--	--	--	--	3.9	6.0	7.3	--	7.4
White pine	12.5	--	--	--	0.6	1.8	0.2	3.2	1.5	5.2
Balsam fir	1.8	--	--	--	0.4	--	1.4	--	--	--
Northern white-cedar	30.8	--	6.1	2.1	11.9	3.8	5.1	1.2	--	0.6
Tamarack	14.9	--	1.3	3.9	1.6	4.4	1.4	2.3	--	--
Oak-hickory	256.9	--	4.8	2.2	28.4	34.8	81.7	62.4	21.6	21.0
Elm-ash-soft maple	253.9	--	--	1.2	20.8	64.1	52.3	59.2	37.9	18.4
Maple-beech-birch	368.4	--	--	6.3	12.0	31.6	89.6	112.4	67.9	48.6
Aspen	38.3	--	--	--	0.9	3.8	12.4	11.8	5.3	4.1
Paper birch	25.4	--	--	2.2	--	5.9	6.5	8.6	2.2	--
Nonstocked	5.8	--	--	--	--	0.6	2.7	--	2.5	--
All forest types	1,033.7	--	12.2	18.3	76.6	154.7	259.3	268.4	138.9	105.3
All Units										
Jack pine	387.4	--	--	4.6	38.5	89.4	164.4	57.3	27.5	5.7
Red pine	602.8	--	3.4	21.0	23.7	76.2	188.6	154.5	110.7	24.7
White pine	191.5	--	--	0.3	23.8	24.0	51.5	42.0	30.6	19.3
Balsam fir	309.4	--	4.1	36.3	63.3	93.4	71.0	26.5	11.2	3.6
White spruce	80.9	--	--	1.7	18.7	11.5	24.5	13.8	--	10.7
Black spruce	330.4	4.8	74.7	114.6	81.3	47.2	5.4	2.4	--	--
Northern white-cedar	319.3	8.5	55.7	74.3	86.3	47.0	37.9	5.8	3.2	0.6
Tamarack	301.9	--	25.3	77.2	94.7	53.7	39.0	9.3	2.4	0.3
Oak-hickory	2,885.5	--	4.8	35.5	281.3	615.6	872.2	654.4	292.4	129.3
Elm-ash-soft maple	1,528.8	1.9	5.9	84.1	243.9	371.6	319.8	275.0	155.7	70.9
Maple-beech-birch	5,299.7	--	--	25.9	208.9	949.9	1,639.4	1,487.5	682.3	305.8
Aspen	2,885.7	--	3.3	11.0	86.4	432.1	831.3	946.0	429.3	146.3
Paper birch	493.7	--	1.0	8.3	28.9	112.5	144.5	134.7	54.6	9.2
Balsam poplar	29.1	--	--	--	3.1	2.2	9.8	8.7	5.3	--
Nonstocked	56.4	3.0	--	9.3	4.8	13.9	11.5	6.3	6.2	1.4
All forest types	15,702.5	18.2	178.2	504.1	1,287.6	2,940.2	4,410.8	3,824.2	1,811.4	727.8

Table 59.--Area of timberland in plantations by forest type, stand-age class, and Forest Survey Unit, Wisconsin, 1996

(In thousand acres)

Forest Survey Unit and forest type	All classes	Stand-age class (years) 1-10	11-20	21-30	31-40	41-50	51-60	61-70	71+
Northeastern Unit									
Jack pine	26.9	13.3	1.3	5.9	--	3.6	2.8	--	--
Red pine	141.6	36.8	5.7	18.7	27.4	39.3	13.7	--	--
White pine	12.3	0.5	0.4	--	8.0	--	--	3.4	--
White spruce	19.1	--	0.8	5.2	0.4	2.8	7.9	2.0	--
All types	199.9	50.6	8.2	29.8	35.8	45.7	24.4	5.4	--
Northwestern Unit									
Jack pine	25.7	2.0	--	--	6.8	11.6	5.3	--	--
Red pine	156.8	45.6	38.0	24.7	18.1	20.4	7.0	3.0	--
White pine	4.1	--	--	--	--	--	4.1	--	--
White spruce	28.3	9.3	2.6	4.2	1.7	8.1	2.4	--	--
All types	214.9	56.9	40.6	28.9	26.6	40.1	18.8	3.0	--
Central Unit									
Jack pine	17.5	3.8	5.6	2.9	2.2	0.8	2.2	--	--
Red pine	167.9	27.7	25.7	52.7	43.8	10.1	7.9	--	--
White pine	8.5	--	0.6	0.6	1.6	2.0	--	1.4	2.3
White spruce	4.7	--	--	3.1	1.6	--	--	--	--
Elm-ash-soft maple	2.3	--	2.3	--	--	--	--	--	--
Nonstocked	2.6	2.6	--	--	--	--	--	--	--
All types	203.5	34.1	34.2	59.3	49.2	12.9	10.1	1.4	2.3
Southwestern Unit									
Red pine	37.3	3.0	1.9	12.5	19.9	--	--	--	--
White pine	16.3	5.3	--	10.9	0.1	--	--	--	--
White spruce	3.2	1.7	--	1.5	--	--	--	--	--
Elm-ash-soft maple	0.1	0.1	--	--	--	--	--	--	--
All types	56.9	10.1	1.9	24.9	20.0	--	--	--	--
Southeastern Unit									
Jack pine	0.4	--	--	0.4	--	--	--	--	--
Red pine	24.6	--	0.5	18.4	3.6	0.8	1.3	--	--
White pine	10.8	1.6	5.2	0.3	1.6	2.1	--	--	--
All types	35.8	1.6	5.7	19.1	5.2	2.9	1.3	--	--
All Units									
Jack pine	70.5	19.1	6.9	9.2	9.0	16.0	10.3	--	--
Red pine	528.2	113.1	71.8	127.0	112.8	70.6	29.9	3.0	--
White pine	52.0	7.4	6.2	11.8	11.3	4.1	4.1	4.8	2.3
White spruce	55.3	11.0	3.4	14.0	3.7	10.9	10.3	2.0	--
Elm-ash-soft maple	2.4	0.1	2.3	--	--	--	--	--	--
Nonstocked	2.6	2.6	--	--	--	--	--	--	--
All types	711.0	153.3	90.6	162.0	136.8	101.6	54.6	9.8	2.3

Table 60.--Area of reserved forest land by ownership class and Forest Survey Unit, Wisconsin, 1996

(In thousand acres)

Ownership class	Forest Survey Unit					
	All Units	Northeastern Unit	Northwestern Unit	Central Unit	Southwestern Unit	Southeastern Unit
National forest	44.0	37.0	7.0	--	--	--
Other federal	65.0	--	60.0	--	5.0	--
State	79.0	4.0	22.0	7.0	33.0	13.0
County and municipal	11.0	3.0	--	2.0	1.0	5.0
Indian	3.0	3.0	--	--	--	--
Individual	29.0	7.0	4.0	9.0	9.0	--
Corporate	11.0	--	--	6.0	5.0	--
All ownerships	242.0	54.0	93.0	24.0	53.0	18.0

Table 61.--Net volume of growing stock on timberland by species group and ownership class, Wisconsin, 1996

(In thousand cubic feet)

Species group	Total	Ownership class							
		National forest	Other federal	State	County & municipal	Indian	Forest industry	Individual	Corporate
Softwoods									
Jack pine	381,915	25,695	10,191	26,660	83,170	6,246	20,426	190,037	19,490
Red pine	987,821	145,812	13,124	74,984	183,552	17,001	38,197	477,236	37,915
White pine	928,649	58,424	20,511	67,041	88,804	95,213	43,349	494,452	60,855
White spruce	237,701	70,709	255	16,004	43,838	1,867	21,237	79,700	4,091
Black spruce	155,986	31,111	--	7,742	23,381	9,091	13,652	62,731	8,278
Balsam fir	470,736	67,840	3,791	37,444	89,711	8,499	41,602	207,575	14,274
Hemlock	400,900	80,657	217	10,098	23,010	80,096	46,533	123,228	37,061
Tamarack	265,005	28,902	1,736	9,711	27,207	2,054	17,678	158,026	19,691
Eastern redcedar	7,036	--	--	54	--	--	--	6,504	478
Northern white-cedar	568,702	108,658	4,141	16,151	102,819	26,226	54,929	240,545	15,233
Other softwoods	13,057	--	--	2,904	453	--	--	9,251	449
Total softwoods	4,417,508	617,808	53,966	268,793	665,945	246,293	297,603	2,049,285	217,815
Hardwoods									
Select white oak	926,757	1,704	3,990	39,486	40,204	4,979	13,217	785,881	37,296
Select red oak	1,729,526	82,938	5,396	61,332	221,706	85,330	63,426	1,135,738	73,660
Other red oak	659,875	1,827	19,915	28,490	60,613	2,213	9,158	496,361	41,298
Select hickory	130,915	--	--	4,450	--	--	--	123,302	3,163
Other hickory	88,104	677	706	4,562	6,040	3,027	6,397	65,105	1,590
Basswood	1,092,419	138,507	2,202	26,797	146,430	49,482	130,389	553,655	44,957
Beech	48,468	1,157	--	1,620	486	17,697	1,247	22,435	3,826
Yellow birch	260,572	46,136	1,715	8,984	29,986	29,232	33,762	90,190	20,567
Hard maple	2,155,013	379,567	--	71,324	253,216	127,552	291,837	941,412	90,105
Soft maple	1,905,873	157,286	34,929	93,766	256,288	44,453	160,235	1,088,346	70,570
Elm	268,832	6,344	1,999	7,131	12,039	1,426	5,410	223,821	10,662
Black ash	457,099	46,109	2,890	17,208	81,180	12,215	23,177	255,842	18,478
White & green ash	531,927	37,466	2,538	16,486	39,414	8,982	36,356	377,618	13,067
Cottonwood	49,615	--	5,930	4,240	4,136	--	--	31,397	3,912
Willow	21,529	--	1,375	1,830	448	--	--	15,495	2,381
Hackberry	9,715	--	905	371	561	--	--	7,643	235
Balsam poplar	49,676	5,662	--	1,851	11,717	761	2,405	26,673	607
Bigtooth aspen	757,158	70,295	5,630	34,205	89,243	14,523	17,574	498,094	27,594
Quaking aspen	1,724,760	192,370	6,830	80,534	316,618	48,217	109,285	907,013	63,893
Paper birch	832,320	95,445	1,001	65,562	108,180	33,991	40,823	440,616	46,702
River birch	12,687	--	496	6,850	--	--	203	3,531	1,607
Tupelo	311	--	--	--	--	--	--	311	--
Black cherry	200,490	12,315	--	7,173	12,359	1,031	8,465	152,254	6,893
Black walnut	48,347	366	285	866	1,656	--	--	44,128	1,046
Butternut	28,270	385	--	282	817	--	2,245	21,611	2,930
Other hardwoods	65,389	--	656	616	1,472	--	865	58,597	3,183
Total hardwoods	14,055,647	1,276,556	99,388	586,016	1,694,809	485,111	956,476	8,367,069	590,222
All species	18,473,155	1,894,364	153,354	854,809	2,360,754	731,404	1,254,079	10,416,354	808,037

Table 62.--Net volume of sawtimber on timberland by species group and ownership class, Wisconsin, 1996

(In thousand board feet)[1]

Species group	Total	Ownership class							
		National forest	Other federal	State	County & municipal	Indian	Forest industry	Individual	Corporate
Softwoods									
Jack pine	945,233	84,517	15,112	62,634	155,452	16,095	41,552	505,965	63,906
Red pine	3,357,335	633,367	61,883	218,991	636,067	65,412	97,818	1,543,182	100,615
White pine	4,399,870	298,421	94,468	341,024	379,484	526,782	220,815	2,243,424	295,452
White spruce	899,918	252,612	1,428	57,467	168,828	7,477	94,354	298,222	19,530
Black spruce	185,159	45,655	--	8,984	35,729	18,489	7,254	58,575	10,473
Balsam fir	787,496	133,302	6,225	41,696	169,508	14,916	75,691	315,700	30,458
Hemlock	1,895,573	406,266	1,037	49,604	100,774	403,667	235,770	513,930	184,525
Tamarack	489,419	64,925	8,066	12,350	64,789	7,350	31,619	252,225	48,095
Eastern redcedar	14,564	--	--	--	--	--	--	12,387	2,177
Northern white-cedar	1,608,145	365,383	7,273	47,056	360,656	71,955	187,049	505,645	63,128
Other softwoods	29,792	--	--	4,099	--	--	--	23,135	2,558
Total softwoods	14,612,504	2,284,448	195,492	843,905	2,071,287	1,132,143	991,922	6,272,390	820,917
Hardwoods									
Select white oak	2,997,736	644	10,543	133,790	92,506	14,234	37,436	2,598,621	109,962
Select red oak	5,995,099	244,887	12,357	199,186	607,967	355,540	226,065	4,102,326	246,771
Other red oak	1,930,853	1,781	42,944	106,138	134,310	7,588	16,683	1,513,968	107,441
Select hickory	296,022	--	--	12,408	--	--	--	276,904	6,710
Other hickory	114,327	1,746	2,577	9,428	8,523	7,785	7,231	76,050	987
Basswood	3,021,734	377,430	3,697	61,808	404,749	170,713	320,284	1,569,005	114,048
Beech	175,170	2,913	--	9,405	1,586	62,103	2,658	80,149	16,356
Yellow birch	706,765	147,398	2,137	31,367	88,337	83,299	108,400	183,240	62,587
Hard maple	5,051,600	761,405	--	159,814	414,388	432,662	651,050	2,388,632	243,649
Soft maple	3,369,995	282,884	115,993	218,001	307,688	61,481	300,697	1,962,987	120,264
Elm	440,171	16,169	2,344	18,288	23,353	3,022	8,103	350,013	18,879
Black ash	606,552	50,832	6,630	19,332	115,919	29,010	23,022	344,140	17,667
White & green ash	1,330,690	117,087	10,939	48,237	97,102	21,710	113,464	900,949	21,202
Cottonwood	207,272	--	27,199	15,560	15,339	--	--	135,049	14,125
Willow	83,020	--	5,541	6,970	1,302	--	--	59,032	10,175
Hackberry	20,823	--	--	1,273	--	--	--	18,608	942
Balsam poplar	133,678	15,716	--	5,005	36,207	1,572	7,746	67,432	--
Bigtooth aspen	2,038,004	211,139	14,204	95,642	174,086	53,543	39,364	1,374,408	75,618
Quaking aspen	3,292,105	389,922	10,118	141,547	551,421	134,685	189,165	1,721,515	153,732
Paper birch	883,152	121,325	--	75,318	86,997	45,635	32,134	452,935	68,808
River birch	20,317	--	--	8,553	--	--	--	10,573	1,191
Black cherry	345,189	22,606	--	21,129	23,936	2,067	15,485	250,484	9,482
Black walnut	164,479	1,671	1,249	1,547	8,440	--	--	147,852	3,720
Butternut	89,717	818	--	516	1,451	--	5,556	69,033	12,343
Other hardwoods	93,433	--	--	--	1,594	--	--	89,167	2,672
Total hardwoods	33,407,903	2,768,373	268,472	1,400,262	3,197,201	1,486,649	2,104,543	20,743,072	1,439,331
All species	48,020,407	5,052,821	463,964	2,244,167	5,268,488	2,618,792	3,096,465	27,015,462	2,260,248

[1] International 1/4-inch rule.

Table 63.--Net volume of growing stock on timberland by forest type, stand-age class, and Forest Survey Unit, Wisconsin, 1996

(In thousand cubic feet)

Forest Survey Unit and forest type	All classes	Stand-age class (years) 1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
Northeastern Unit														
Jack pine	86,062	187	--	22,422	8,154	27,819	11,621	1,568	7,004	--	7,287	--	--	--
Red pine	321,018	4,178	--	34,361	74,632	122,230	45,992	3,240	5,816	22,849	5,263	2,457	--	--
White pine	185,843	--	185	--	8,385	12,560	10,450	21,169	13,143	34,605	36,031	36,356	--	12,959
Balsam fir	131,270	2,505	14,227	10,150	7,407	20,593	23,910	38,317	2,541	426	6,556	1,492	3,146	--
White spruce	45,453	--	177	5,263	797	5,252	24,063	9,901	--	--	--	--	--	--
Black spruce	73,018	--	6,861	--	6,703	13,269	21,255	11,371	5,879	4,644	3,036	--	--	--
Northern white-cedar	299,965	315	--	122	--	27,114	51,983	23,826	67,352	19,631	40,056	46,298	9,867	13,401
Tamarack	62,490	--	--	--	4,535	9,702	10,686	21,072	5,472	8,193	2,830	--	--	--
Oak-hickory	256,093	3,582	4,769	3,779	17,267	21,909	60,776	41,235	33,686	1,157	28,788	26,826	12,319	--
Elm-ash-soft maple	227,105	8,142	17,170	4,151	30,291	37,232	35,582	23,345	38,326	26,823	4,530	1,513	--	--
Maple-basswood	2,784,567	18,326	43,493	63,591	100,481	420,363	557,357	511,591	299,525	164,844	207,298	239,195	88,565	69,938
Aspen	781,538	35,970	54,495	80,530	97,661	168,875	166,025	80,526	49,168	15,461	25,575	7,252	--	--
Paper birch	290,703	3,011	8,568	9,610	22,589	31,552	85,998	47,640	57,821	16,324	--	7,590	--	--
Balsam poplar	4,949	--	2,185	--	--	2,764	--	--	--	--	--	--	--	--
Nonstocked	956	--	--	--	--	--	--	--	--	--	--	--	956	--
All types	5,551,030	76,216	152,130	233,979	378,902	921,234	1,105,698	834,801	585,733	314,957	367,250	368,979	114,853	96,298
Northwestern Unit														
Jack pine	135,034	--	484	9,795	24,360	41,744	24,773	16,035	--	9,154	8,689	--	--	--
Red pine	240,995	993	13,618	38,643	42,695	53,487	37,318	17,926	25,906	--	10,409	--	--	--
White pine	72,262	--	--	--	--	14,018	21,561	4,732	4,587	9,675	17,689	--	--	--
Balsam fir	127,196	1,908	9,353	22,416	7,313	32,789	25,325	13,101	10,869	3,540	--	--	582	--
White spruce	51,243	--	1,390	7,586	3,908	26,841	8,516	--	3,002	--	--	--	--	--
Black spruce	46,925	695	--	1,006	3,663	23,893	10,301	5,250	1,405	187	525	--	--	--
Northern white-cedar	168,245	--	--	--	1,930	10,527	10,764	16,720	14,821	16,622	45,647	19,678	21,174	10,362
Tamarack	113,573	--	--	3,335	11,729	20,608	4,385	28,578	19,148	8,214	12,848	4,728	--	--
Oak-hickory	655,993	4,328	4,151	10,721	29,306	62,376	166,976	154,881	107,466	78,066	14,186	23,536	--	--
Elm-ash-soft maple	410,894	3,156	5,460	13,651	18,478	74,797	119,063	66,731	33,685	27,622	19,540	21,779	6,932	--
Maple-basswood	2,823,126	24,524	28,521	53,261	166,247	411,970	698,219	565,734	379,807	207,080	123,431	97,668	54,210	12,454
Aspen	1,186,739	40,576	49,021	98,447	223,504	275,549	264,821	159,043	33,065	32,501	10,212	--	--	--
Paper birch	215,387	1,210	8,668	2,999	11,938	66,486	71,123	28,817	11,398	5,141	7,607	--	--	--
Balsam poplar	10,239	--	2,426	--	4,243	3,570	--	--	--	--	--	--	--	--
Nonstocked	2,608	--	--	1,222	--	555	--	831	--	--	--	--	--	--
All types	6,260,459	77,390	123,092	263,082	549,314	1,119,210	1,463,145	1,078,379	645,159	397,802	270,783	167,389	82,898	22,816

(Table 63 continued on next page)

(Table 63 continued)

Forest Survey Unit and forest type	All classes	Stand-age class (years) 1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
Central Unit														
Jack pine	85,752	1,545	2,121	12,756	37,829	15,082	7,763	744	7,912	--	--	--	--	--
Red pine	223,933	518	17,430	77,391	91,870	19,333	15,777	1,614	--	--	--	--	--	--
White pine	95,715	--	1,801	1,046	7,352	11,147	4,124	6,299	42,826	5,145	7,577	8,398	--	--
Balsam fir	8,682	--	5,086	1,763	1,833	--	--	--	--	--	--	--	--	--
White spruce	3,610	--	--	2,167	1,443	--	--	--	--	--	--	--	--	--
Black spruce	3,168	--	--	--	417	--	--	1,408	--	--	1,343	--	--	--
Northern white-cedar	5,639	--	--	--	--	3,631	2,008	--	--	--	--	--	--	--
Tamarack	26,560	--	--	3,879	1,607	4,962	1,884	14,228	--	--	--	--	--	--
Oak-hickory	1,083,284	6,317	7,320	14,394	55,449	124,523	221,283	206,685	200,487	136,049	54,305	40,619	15,853	--
Elm-ash-soft maple	283,454	3,668	6,438	19,308	36,200	76,439	32,897	35,008	30,421	37,241	3,746	--	2,088	--
Maple-basswood	994,049	10,162	18,145	47,899	85,796	214,240	171,893	148,526	74,465	137,276	35,821	30,686	3,237	15,903
Aspen	231,594	11,700	10,550	41,976	28,803	45,924	64,068	16,981	10,061	1,531	--	--	--	--
Paper birch	65,335	--	4,260	652	4,973	32,621	13,159	--	9,670	--	--	--	--	--
Nonstocked	229	229	--	--	--	--	--	--	--	--	--	--	--	--
All types	3,111,004	34,139	73,151	223,231	353,572	547,902	534,856	431,493	375,842	317,242	102,792	79,703	21,178	15,903
Southwestern Unit														
Jack pine	1,487	--	1,487	--	--	--	--	--	--	--	--	--	--	--
Red pine	54,204	--	466	20,880	32,858	--	--	--	--	--	--	--	--	--
White pine	18,565	--	--	14,039	--	--	--	--	--	--	4,526	--	--	--
White spruce	2,186	--	--	2,186	--	--	--	--	--	--	--	--	--	--
Oak-hickory	1,195,966	3,535	19,058	15,176	97,923	164,327	209,505	222,451	192,194	71,864	110,461	40,883	47,412	1,177
Elm-ash-soft maple	195,493	2,285	5,244	26,052	38,112	41,079	42,981	6,142	21,534	12,064	--	--	--	--
Maple-basswood	700,067	10,713	35,947	53,059	96,988	90,989	125,383	120,696	76,013	31,190	42,823	15,599	--	667
Aspen	100,524	513	2,835	6,484	9,873	41,188	34,402	--	4,569	660	--	--	--	--
Paper birch	44,346	--	1,503	2,380	4,467	16,784	1,469	6,643	6,491	--	4,609	--	--	--
Balsam poplar	1,089	--	--	1,089	--	--	--	--	--	--	--	--	--	--
All types	2,313,927	17,046	66,540	141,345	280,221	354,367	413,740	355,932	300,801	115,778	162,419	56,482	47,412	1,844

(Table 63 continued on next page)

(Table 63 continued)

Forest Survey Unit and forest type	All classes	Stand-age class (years) 1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
Southeastern Unit														
Jack pine	136	--	--	136	--	--	--	--	--	--	--	--	--	--
Red pine	43,361	--	--	36,655	3,328	856	2,522	--	--	--	--	--	--	--
White pine	15,204	--	2,674	411	4,955	7,164	--	--	--	--	--	--	--	--
Balsam fir	2,243	--	--	--	--	1,967	--	276	--	--	--	--	--	--
Northern white-cedar	32,898	--	--	--	6,039	3,588	3,781	2,648	6,936	6,712	3,194	--	--	--
Tamarack	7,123	--	2,710	--	739	228	--	1,150	2,296	--	--	--	--	--
Oak-hickory	316,400	3,023	--	6,283	13,705	11,857	32,619	38,326	47,038	24,301	67,630	47,353	17,730	6,535
Elm-ash-soft maple	234,584	2,996	15,644	28,087	22,586	57,501	16,401	15,093	52,761	11,792	--	3,436	--	8,287
Maple-basswood	520,516	3,848	19,645	28,134	70,999	56,175	43,884	54,099	64,267	76,010	52,438	24,712	8,959	17,346
Aspen	37,089	--	1,773	5,618	1,670	20,754	--	3,355	--	161	3,758	--	--	--
Paper birch	26,881	--	169	2,194	8,275	849	4,813	--	6,272	2,264	--	--	--	2,045
Nonstocked	300	--	--	300	--	--	--	--	--	--	--	--	--	--
All types	1,236,735	9,867	42,615	107,818	132,296	160,939	104,020	114,947	179,570	121,240	127,020	75,501	26,689	34,213
All Units														
Jack pine	308,471	1,732	4,092	45,109	70,343	84,645	44,157	18,347	14,916	9,154	15,976	--	--	--
Red pine	883,511	5,689	31,514	207,930	245,383	195,906	101,609	22,780	31,722	22,849	15,672	2,457	--	--
White pine	387,589	--	4,660	15,496	20,692	44,889	36,135	32,200	60,556	49,425	65,823	44,754	--	12,959
Balsam fir	269,391	4,413	28,666	34,329	16,553	55,349	49,235	51,694	13,410	3,966	6,556	1,492	3,728	--
White spruce	102,492	--	1,567	17,202	6,148	32,093	32,579	9,901	3,002	--	--	--	--	--
Black spruce	123,111	695	6,861	1,006	10,783	37,162	31,556	18,029	7,284	4,831	4,904	--	--	--
Northern white-cedar	506,747	315	--	122	7,969	44,860	68,536	43,194	89,109	42,965	88,897	65,976	31,041	23,763
Tamarack	209,746	--	2,710	7,214	18,610	35,500	16,955	65,028	26,916	16,407	15,678	4,728	--	--
Oak-hickory	3,507,736	20,785	35,298	50,353	213,650	384,992	691,159	663,578	580,871	311,437	275,370	179,217	93,314	7,712
Elm-ash-soft maple	1,351,530	20,247	49,956	91,249	145,667	287,048	246,924	146,319	176,727	115,542	27,816	26,728	9,020	8,287
Maple-basswood	7,822,325	67,573	145,751	245,944	520,511	1,193,737	1,596,736	1,400,646	894,077	616,400	461,811	407,860	154,971	116,308
Aspen	2,337,484	88,759	118,674	233,055	361,511	552,290	529,316	259,905	96,863	50,314	39,545	7,252	--	--
Paper birch	642,652	4,221	23,168	17,835	52,242	148,292	176,562	83,100	91,652	23,729	12,216	7,590	--	2,045
Balsam poplar	16,277	--	4,611	1,089	4,243	6,334	--	--	--	--	--	--	--	--
Nonstocked	4,093	229	--	1,522	--	555	--	831	--	--	--	--	956	--
All types	18,473,155	214,658	457,528	969,455	1,694,305	3,103,652	3,621,459	2,815,552	2,087,105	1,267,019	1,030,264	748,054	293,030	171,074

Table 64.--Net volume of sawtimber on timberland by forest type, stand-age class, and Forest Survey Unit, Wisconsin, 1996

(In thousand board feet)[1]

Forest Survey Unit and forest type	All classes	Stand-age class (years)												
		1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
Northeastern Unit														
Jack pine	233,717	--	--	54,399	6,544	75,867	46,168	7,927	12,887	--	29,925	--	--	--
Red pine	1,092,602	7,477	--	33,309	200,367	463,315	194,874	12,602	27,681	112,982	26,827	13,168	--	--
White pine	839,199	--	--	--	27,440	44,721	42,982	93,582	62,288	161,029	167,670	170,660	--	68,827
Balsam fir	301,897	2,501	31,008	26,168	18,097	42,797	70,076	64,708	--	1,375	31,189	5,521	8,457	--
White spruce	131,687	--	--	8,067	1,410	13,669	79,034	29,507	--	--	--	--	--	--
Black spruce	58,269	--	1,219	--	3,187	9,626	15,044	2,943	8,390	13,589	4,271	--	--	--
Northern white-cedar	627,111	--	--	--	--	71,760	77,355	38,843	102,081	30,562	112,651	139,873	4,703	49,283
Tamarack	100,416	--	--	--	2,933	19,283	6,800	40,603	12,489	15,881	2,427	--	--	--
Oak-hickory	664,625	11,094	12,458	14,732	21,373	57,341	141,798	93,637	72,584	3,897	102,708	93,449	39,554	--
Elm-ash-soft maple	441,143	13,001	22,630	2,057	52,499	73,966	61,986	34,124	92,814	70,517	14,687	2,862	--	--
Maple-basswood	7,683,122	54,421	96,824	122,424	196,556	814,190	1,190,287	1,175,937	959,371	582,446	805,692	990,315	376,324	318,335
Aspen	1,608,436	87,820	141,534	97,597	145,582	295,837	364,437	175,015	135,340	48,453	92,526	24,295	--	--
Paper birch	579,586	3,412	13,824	11,875	23,217	70,643	169,844	108,133	104,837	46,691	--	27,110	--	--
Balsam poplar	14,185	--	5,972	--	--	8,213	--	--	--	--	--	--	--	--
Nonstocked	3,121	--	--	--	--	--	--	--	--	--	--	--	3,121	--
All types	14,379,116	179,726	325,469	370,628	699,205	2,061,228	2,460,685	1,877,561	1,590,762	1,087,422	1,390,573	1,467,253	432,159	436,445
Northwestern Unit														
Jack pine	344,953	--	--	16,797	28,172	76,948	81,323	58,181	--	42,000	41,532	--	--	--
Red pine	801,680	5,314	4,001	51,134	97,660	219,883	165,203	88,164	128,070	--	42,251	--	--	--
White pine	329,643	--	--	--	--	54,506	96,853	22,973	25,328	40,104	89,879	--	--	--
Balsam fir	284,134	1,250	19,963	38,648	16,047	74,996	53,195	22,457	41,489	13,029	--	--	3,060	--
White spruce	153,618	--	4,796	20,367	3,655	77,997	39,384	--	7,419	--	--	--	--	--
Black spruce	38,410	1,564	--	1,531	2,975	15,531	11,296	5,513	--	--	--	--	--	--
Northern white-cedar	571,989	--	--	--	1,516	34,362	33,462	31,346	45,616	48,339	205,997	59,860	76,389	35,102
Tamarack	222,004	--	--	5,305	7,028	22,015	9,485	79,894	27,274	25,044	37,680	8,279	--	--
Oak-hickory	1,612,964	16,553	9,193	14,709	80,719	154,332	355,340	312,966	301,321	228,932	54,513	84,386	--	--
Elm-ash-soft maple	719,865	4,892	7,033	25,029	33,763	94,937	208,883	132,658	52,494	43,310	34,914	52,697	29,255	--
Maple-basswood	6,902,675	54,142	56,818	70,046	275,344	770,491	1,444,419	1,355,722	1,144,787	673,382	417,541	356,286	218,899	64,798
Aspen	2,414,763	81,058	108,356	107,512	319,692	520,284	608,687	421,134	94,323	113,876	39,841	--	--	--
Paper birch	401,471	5,894	14,774	3,626	17,586	129,853	104,829	54,808	35,897	12,030	22,174	--	--	--
Balsam poplar	34,032	--	11,318	--	11,262	11,452	--	--	--	--	--	--	--	--
Nonstocked	10,633	--	--	4,558	--	1,778	--	4,297	--	--	--	--	--	--
All types	14,842,834	170,667	236,252	359,262	895,419	2,259,365	3,212,359	2,590,113	1,904,018	1,240,046	986,322	561,508	327,603	99,900

(Table 64 continued on next page)

(Table 64 continued)

Forest Survey Unit and forest type	All classes	Stand-age class (years) 1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
Central Unit														
Jack pine	169,651	899	862	8,154	64,638	44,081	22,516	3,793	24,708	--	--	--	--	--
Red pine	487,566	833	13,740	97,429	245,477	56,398	67,314	6,375	--	--	--	--	--	--
White pine	410,325	--	5,585	3,958	34,153	29,089	9,254	20,474	207,228	26,001	35,016	39,567	--	--
Balsam fir	22,200	--	14,768	1,059	6,373	--	--	--	--	--	--	--	--	--
White spruce	2,323	--	--	--	2,323	--	--	--	--	--	--	--	--	--
Northern white-cedar	8,639	--	--	--	--	999	7,640	--	--	--	--	--	--	--
Tamarack	35,347	--	--	11,848	1,695	3,250	--	18,554	--	--	--	--	--	--
Oak-hickory	2,989,943	20,164	25,471	37,250	99,365	263,494	534,999	535,674	613,779	463,222	198,466	135,304	62,755	--
Elm-ash-soft maple	676,380	4,951	11,273	39,674	59,732	137,913	69,126	105,051	93,633	136,791	10,177	--	8,059	--
Maple-basswood	2,712,437	22,988	33,400	92,526	163,970	508,175	398,313	443,102	232,043	477,070	134,601	118,113	9,092	79,044
Aspen	388,629	31,817	20,853	52,346	32,004	67,982	118,649	27,070	34,138	3,770	--	--	--	--
Paper birch	163,022	--	10,275	2,181	11,430	82,603	29,950	--	26,583	--	--	--	--	--
Nonstocked	967	967	--	--	--	--	--	--	--	--	--	--	--	--
All types	8,067,429	82,619	136,227	346,425	721,160	1,193,984	1,257,761	1,160,093	1,232,112	1,106,854	378,260	292,984	79,906	79,044
Southwestern Unit														
Jack pine	3,364	--	3,364	--	--	--	--	--	--	--	--	--	--	--
Red pine	99,296	--	--	18,992	80,304	--	--	--	--	--	--	--	--	--
White pine	62,153	--	--	42,846	--	--	--	--	--	--	19,307	--	--	--
White spruce	9,472	--	--	9,472	--	--	--	--	--	--	--	--	--	--
Oak-hickory	3,762,434	11,221	57,127	36,807	247,427	466,138	570,715	744,093	657,243	230,332	388,873	159,983	187,290	5,185
Elm-ash-soft maple	587,741	10,529	5,372	52,942	120,005	98,043	151,618	20,969	83,313	44,950	--	--	--	--
Maple-basswood	2,180,384	34,004	108,286	110,102	248,255	233,887	419,233	420,414	257,690	122,142	163,635	59,510	--	3,226
Aspen	236,833	1,412	871	5,492	21,361	84,221	113,190	--	9,010	1,276	--	--	--	--
Paper birch	115,308	--	1,959	4,578	5,403	39,585	3,747	22,314	28,400	--	9,322	--	--	--
Balsam poplar	1,340	--	--	1,340	--	--	--	--	--	--	--	--	--	--
All types	7,058,325	57,166	176,979	282,571	722,755	921,874	1,258,503	1,207,790	1,035,656	398,700	581,137	219,493	187,290	8,411

(Table 64 continued on next page)

(Table 64 continued)

Forest Survey Unit and forest type	All classes	Stand-age class (years)												
		1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
Southeastern Unit														
Jack pine	353	--	--	353	--	--	--	--	--	--	--	--	--	--
Red pine	57,620	--	--	29,158	13,214	1,958	13,290	--	--	--	--	--	--	--
White pine	42,119	--	1,193	2,135	18,311	20,480	--	--	--	--	--	--	--	--
Balsam fir	3,342	--	--	--	--	2,466	--	876	--	--	--	--	--	--
Northern white-cedar	84,495	--	--	--	2,191	10,032	3,465	6,470	22,050	30,030	10,257	--	--	--
Tamarack	16,637	--	6,268	--	--	--	--	771	9,598	--	--	--	--	--
Oak-hickory	1,117,335	12,108	--	12,456	32,482	21,975	122,074	121,404	181,256	57,285	272,279	191,203	65,604	27,209
Elm-ash-soft maple	653,322	11,312	35,251	53,705	38,287	142,816	33,853	51,773	199,943	39,969	--	12,846	--	33,567
Maple-basswood	1,601,491	5,772	54,028	71,204	146,652	139,305	115,790	189,232	226,189	270,840	180,970	95,608	33,828	72,073
Aspen	47,071	--	3,196	2,883	1,001	26,080	--	2,183	--	--	11,728	--	--	--
Paper birch	47,800	--	--	2,787	4,373	997	8,176	--	19,181	5,862	--	--	--	6,424
Nonstocked	1,118	--	--	1,118	--	--	--	--	--	--	--	--	--	--
All types	3,672,703	29,192	99,936	175,799	256,511	366,109	296,648	372,709	658,217	403,986	475,234	299,657	99,432	139,273
All Units														
Jack pine	752,038	899	4,226	79,703	99,354	196,896	150,007	69,901	37,595	42,000	71,457	--	--	--
Red pine	2,538,764	13,624	17,741	230,022	637,022	741,554	440,681	107,141	155,751	112,982	69,078	13,168	--	--
White pine	1,683,439	--	6,778	48,939	79,904	148,796	149,089	137,029	294,844	227,134	311,872	210,227	--	68,827
Balsam fir	611,573	3,751	65,739	65,875	40,517	120,259	123,271	88,041	41,489	14,404	31,189	5,521	11,517	--
White spruce	297,100	--	4,796	37,906	7,388	91,666	118,418	29,507	7,419	--	--	--	--	--
Black spruce	96,679	1,564	1,219	1,531	6,162	25,157	26,340	8,456	8,390	13,589	4,271	--	--	--
Northern white-cedar	1,292,234	--	--	--	3,707	117,153	121,922	76,659	169,747	108,931	328,905	199,733	81,092	84,385
Tamarack	374,404	--	6,268	17,153	11,656	44,548	16,285	139,822	49,361	40,925	40,107	8,279	--	--
Oak-hickory	10,147,301	71,140	104,249	115,954	481,366	963,280	1,724,926	1,807,774	1,826,183	983,668	1,016,839	664,325	355,203	32,394
Elm-ash-soft maple	3,078,451	44,685	81,559	173,407	304,286	547,675	525,466	344,575	522,197	335,537	59,778	68,405	37,314	33,567
Maple-basswood	21,080,109	171,327	349,356	466,302	1,030,777	2,466,048	3,568,042	3,584,407	2,820,080	2,125,880	1,702,439	1,619,832	638,143	537,476
Aspen	4,695,732	202,107	274,810	265,830	519,640	994,404	1,204,963	625,402	272,811	167,375	144,095	24,295	--	--
Paper birch	1,307,187	9,306	40,832	25,047	62,009	323,681	316,546	185,255	214,898	64,583	31,496	27,110	--	6,424
Balsam poplar	49,557	--	17,290	1,340	11,262	19,665	--	--	--	--	--	--	--	--
Nonstocked	15,839	967	--	5,676	--	1,778	--	4,297	--	--	--	--	3,121	--
All types	48,020,407	519,370	974,863	1,534,685	3,295,050	6,802,560	8,485,956	7,208,266	6,420,765	4,237,008	3,811,526	2,840,895	1,126,390	763,073

[1] International 1/4-inch rule.

Table 65.--Net volume of sawtimber on timberland by species group, grade, and Forest Survey Unit, Wisconsin, 1996

(In thousand board feet)[1]

Northeastern Unit

Species	Total	Log grade 1	2	3	4
Softwoods					
Jack pine	255,830	--	12,096	243,734	--
Red pine	1,511,479	121,830	104,943	1,284,706	--
White pine	1,665,914	387,679	360,681	784,464	133,090
White spruce	373,155	--	19,583	353,572	--
Black spruce	79,924	--	--	79,924	--
Balsam fir	283,642	--	--	283,642	--
Hemlock	1,215,107	239,775	245,609	729,723	--
Tamarack	144,420	--	2,795	141,625	--
Eastern redcedar	--	--	--	--	--
Northern white-cedar	699,183	5,175	56,508	637,500	--
Other softwoods	4,284	--	--	4,284	--
Total	6,232,938	754,459	802,215	4,543,174	133,090

Species	Total	Tree grade 1	2	3	Tie & timber
Hardwoods					
Select white oak	46,943	1,176	15,563	24,861	5,343
Select red oak	1,136,298	351,312	411,060	324,376	49,550
Other red oak	155,918	13,003	21,551	61,156	60,208
Other hickory	19,440	--	6,618	7,798	5,024
Basswood	935,849	268,244	294,199	365,094	8,312
Beech	100,231	22,235	29,566	30,398	18,032
Yellow birch	313,373	79,120	97,912	122,648	13,693
Hard maple	2,271,634	568,956	679,714	880,655	142,309
Soft maple	642,098	68,934	178,631	353,967	40,566
Elm	43,463	7,099	12,030	20,476	3,858
Black ash	114,372	5,870	44,362	56,168	7,972
White & green ash	280,507	64,944	89,220	115,313	11,030
Cottonwood	11,053	--	2,909	4,725	3,419
Willow	1,061	--	1,061	--	--
Balsam poplar	81,338	6,363	20,260	35,793	18,922
Bigtooth aspen	475,887	31,279	195,795	237,756	11,057
Quaking aspen	1,059,209	54,535	262,561	596,790	145,323
Paper birch	375,218	22,291	121,593	208,857	22,477
Black cherry	68,360	5,131	25,548	35,266	2,415
Black walnut	923	--	--	923	--
Butternut	13,003	818	4,599	7,586	--
Total	8,146,178	1,571,310	2,514,752	3,490,606	569,510
All species	14,379,116	2,325,769	3,316,967	8,033,780	702,600

Northwestern Unit

Species	Total	Log grade 1	2	3	4
Softwoods					
Jack pine	390,208	--	12,196	378,012	--
Red pine	1,153,249	97,846	150,922	904,481	--
White pine	1,073,707	188,859	325,776	492,758	66,314
White spruce	490,898	--	9,206	481,692	--
Black spruce	102,852	--	1,631	101,221	--
Balsam fir	486,138	--	--	486,138	--
Hemlock	485,534	94,189	105,599	285,746	--
Tamarack	257,504	--	13,283	244,221	--
Eastern redcedar	2,006	--	--	2,006	--
Northern white-cedar	706,991	17,455	115,727	573,809	--
Other softwoods	11,207	--	--	11,207	--
Total	5,160,294	398,349	734,340	3,961,291	66,314

Species	Total	Tree grade 1	2	3	Tie & timber
Hardwoods					
Select white oak	345,489	23,787	92,070	155,238	74,394
Select red oak	1,687,789	344,684	598,214	666,732	78,159
Other red oak	139,779	10,080	17,426	72,532	39,741
Other hickory	16,946	--	3,259	8,364	5,323
Basswood	1,093,064	284,888	360,100	431,802	16,274
Beech	--	--	--	--	--
Yellow birch	346,795	89,861	108,009	132,865	16,060
Hard maple	1,622,231	257,824	512,972	738,177	113,258
Soft maple	972,340	85,104	275,569	534,990	76,677
Elm	66,677	16,147	17,482	25,465	7,583
Black ash	311,810	32,518	109,731	162,541	7,020
White & green ash	280,008	54,045	96,577	118,255	11,131
Cottonwood	--	--	--	--	--
Willow	--	--	--	--	--
Balsam poplar	36,880	--	4,394	25,497	6,989
Bigtooth aspen	649,862	35,689	271,893	324,873	17,407
Quaking aspen	1,776,227	128,427	446,498	1,025,113	176,189
Paper birch	305,036	4,423	73,590	214,602	12,421
Black cherry	12,830	1,652	2,168	9,010	--
Black walnut	5,915	--	--	5,915	--
Butternut	12,862	--	7,013	5,849	--
Total	9,682,540	1,369,129	2,996,965	4,657,820	658,626
All species	14,842,834	1,767,478	3,731,305	8,619,111	724,940

(Table 65 continued on the next page)

Central Unit

Species	Total	Log grade 1	2	3	4
Softwoods					
Jack pine	283,454	3,115	9,913	270,426	--
Red pine	538,912	17,961	34,094	486,857	--
White pine	1,292,647	134,778	351,066	689,318	117,485
White spruce	16,688	--	--	16,688	--
Black spruce	--	--	--	--	--
Balsam fir	16,451	--	--	16,451	--
Hemlock	141,051	2,371	18,469	120,211	--
Tamarack	58,192	--	886	57,306	--
Eastern redcedar	--	--	--	--	--
Northern white-cedar	34,725	--	2,560	32,165	--
Other softwoods	11,152	--	--	11,152	--
Total	2,393,272	158,225	416,988	1,700,574	117,485

Species	Total	Tree grade 1	2	3	Tie & timber
Hardwoods					
Select white oak	729,686	59,805	202,671	341,989	125,221
Select red oak	1,094,016	271,144	337,217	392,182	93,473
Other red oak	1,165,547	95,376	209,471	523,621	337,079
Select hickory	19,517	--	6,894	11,344	1,279
Other hickory	19,116	--	5,996	10,064	3,056
Basswood	269,117	73,066	82,435	105,304	8,312
Yellow birch	33,250	--	10,569	18,240	4,441
Hard maple	353,925	67,432	117,132	145,716	23,645
Soft maple	847,540	107,850	233,526	449,592	56,572
Elm	33,186	2,771	5,586	17,834	6,995
Black ash	98,837	10,270	32,539	52,512	3,516
White & green ash	150,618	36,593	36,343	67,340	10,342
Cottonwood	32,137	10,715	910	18,048	2,464
Willow	7,945	--	--	5,491	2,454
Hackberry	--	--	--	--	--
Balsam poplar	4,681	--	2,838	1,843	--
Bigtooth aspen	394,455	19,348	122,097	221,702	31,308
Quaking aspen	296,443	4,496	49,299	193,394	49,254
Paper birch	55,995	--	8,239	38,935	8,821
River birch	4,573	--	1,968	2,605	--
Black cherry	27,071	--	13,992	10,482	2,597
Black walnut	3,011	--	--	3,011	--
Butternut	19,880	2,213	9,776	7,891	--
Other hardwoods	13,611	--	--	11,924	1,687
Total	5,674,157	761,079	1,489,498	2,651,064	772,516
All species	8,067,429	919,304	1,906,486	4,351,638	890,001

Southwestern Unit

Species	Total	Log grade 1	2	3	4
Softwoods					
Jack pine	15,067	--	--	15,067	--
Red pine	97,781	--	--	97,781	--
White pine	268,375	8,722	42,741	203,124	13,788
White spruce	9,472	--	--	9,472	--
Black spruce	2,383	2,383	--	--	--
Balsam fir	--	--	--	--	--
Hemlock	--	--	--	--	--
Tamarack	--	--	--	--	--
Eastern redcedar	2,870	--	--	2,870	--
Northern white-cedar	--	--	--	--	--
Other softwoods	1,378	--	--	1,378	--
Total	397,326	11,105	42,741	329,692	13,788

Species	Total	Tree grade 1	2	3	Tie & timber
Hardwoods					
Select white oak	1,259,584	131,891	389,854	564,146	173,693
Select red oak	1,744,142	484,963	552,985	630,020	76,174
Other red oak	268,126	27,010	63,790	116,150	61,176
Select hickory	186,317	28,915	34,603	101,105	21,694
Other hickory	52,076	2,752	21,921	20,446	6,957
Basswood	492,606	132,355	172,559	182,667	5,025
Yellow birch	3,109	--	1,554	1,555	--
Hard maple	501,755	114,273	142,040	210,008	35,434
Soft maple	481,558	84,352	112,661	242,441	42,104
Elm	202,606	27,579	46,494	100,419	28,114
Black ash	47,020	12,844	16,033	13,974	4,169
White & green ash	197,339	38,872	70,450	82,553	5,464
Cottonwood	144,058	77,039	20,577	38,650	7,792
Willow	27,437	1,926	12,014	7,652	5,845
Hackberry	19,820	2,874	13,495	2,577	874
Balsam poplar	5,013	--	--	5,013	--
Bigtooth aspen	469,738	50,049	190,689	223,103	5,897
Quaking aspen	102,560	12,167	30,001	54,071	6,321
Paper birch	95,877	4,086	24,979	59,665	7,147
River birch	13,430	--	5,789	7,641	--
Black cherry	125,623	5,650	43,075	75,577	1,321
Black walnut	114,668	18,513	44,303	49,893	1,959
Butternut	42,437	3,247	12,228	26,962	--
Other hardwoods	64,100	--	13,079	44,939	6,082
Total	6,660,999	1,261,357	2,035,173	2,861,227	503,242
All species	7,058,325	1,272,462	2,077,914	3,190,919	517,030

(Table 65 continued on the next page)

(Table 65 continued)

Southeastern Unit

Species	Total	Log grade 1	2	3	4
Softwoods					
Jack pine	674	--	--	674	--
Red pine	55,914	--	--	55,914	--
White pine	99,227	7,959	19,177	62,442	9,649
White spruce	9,705	--	--	9,705	--
Black spruce	--	--	--	--	--
Balsam fir	1,265	--	--	1,265	--
Hemlock	53,881	--	991	52,890	--
Tamarack	29,303	--	1,790	27,513	--
Eastern redcedar	9,688	--	--	9,688	--
Northern white-cedar	167,246	--	6,744	160,502	--
Other softwoods	1,771	--	--	1,771	--
Total	428,674	7,959	28,702	382,364	9,649

Species	Total	Tree grade 1	2	3	Tie & timber
Hardwoods					
Select white oak	616,034	123,469	228,777	219,461	44,327
Select red oak	332,854	165,796	69,713	79,632	17,713
Other red oak	201,483	36,234	52,026	85,716	27,507
Select hickory	90,188	20,115	20,947	41,629	7,497
Other hickory	6,749	--	831	4,415	1,503
Basswood	231,098	60,705	81,873	88,520	--
Beech	74,939	15,404	28,128	22,620	8,787
Yellow birch	10,238	--	1,372	8,866	--
Hard maple	302,055	102,308	96,061	95,673	8,013
Soft maple	426,459	79,053	117,130	205,062	25,214
Elm	94,239	22,086	27,125	34,388	10,640
Black ash	34,513	6,958	14,940	12,615	--
White & green ash	422,218	124,252	133,847	140,250	23,869
Cottonwood	20,024	--	7,211	9,644	3,169
Willow	46,577	--	7,121	23,970	15,486
Hackberry	1,003	--	--	1,003	--
Balsam poplar	5,766	--	--	1,833	3,933
Bigtooth aspen	48,062	--	17,696	27,548	2,818
Quaking aspen	57,666	1,711	8,987	29,927	17,041
Paper birch	51,026	1,484	23,706	25,836	--
River birch	2,314	--	1,160	1,154	--
Black cherry	111,305	23,632	27,223	59,250	1,200
Black walnut	39,962	3,983	24,237	9,080	2,662
Butternut	1,535	--	--	1,535	--
Other hardwoods	15,722	--	4,927	8,647	2,148
Total	3,244,029	787,190	995,038	1,238,274	223,527
All species	3,672,703	795,149	1,023,740	1,620,638	233,176

[1] international 1/4-inch rule.

All Units

Species	Total	Log grade 1	2	3	4
Softwoods					
Jack pine	945,233	3,115	34,205	907,913	--
Red pine	3,357,335	237,637	289,959	2,829,739	--
White pine	4,399,870	727,997	1,099,441	2,232,106	340,326
White spruce	899,918	--	28,789	871,129	--
Black spruce	185,159	2,383	1,631	181,145	--
Balsam fir	787,496	--	--	787,496	--
Hemlock	1,895,573	336,335	370,668	1,188,570	--
Tamarack	489,419	--	18,754	470,665	--
Eastern redcedar	14,564	--	--	14,564	--
Northern white-cedar	1,608,145	22,630	181,539	1,403,976	--
Other softwoods	29,792	--	--	29,792	--
Total	14,612,504	1,330,097	2,024,986	10,917,095	340,326

Species	Total	Tree grade 1	2	3	Tie & timber
Hardwoods					
Select white oak	2,997,736	340,128	928,935	1,305,695	422,978
Select red oak	5,995,099	1,617,899	1,969,189	2,092,942	315,069
Other red oak	1,930,853	181,703	364,264	859,175	525,711
Select hickory	296,022	49,030	62,444	154,078	30,470
Other hickory	114,327	2,752	38,625	51,087	21,863
Basswood	3,021,734	819,258	991,166	1,173,387	37,923
Beech	175,170	37,639	57,694	53,018	26,819
Yellow birch	706,765	168,981	219,416	284,174	34,194
Hard maple	5,051,600	1,110,793	1,547,919	2,070,229	322,659
Soft maple	3,369,995	425,293	917,517	1,786,052	241,133
Elm	440,171	75,682	108,717	198,582	57,190
Black ash	606,552	68,460	217,605	297,810	22,677
White & green ash	1,330,690	318,706	426,437	523,711	61,836
Cottonwood	207,272	87,754	31,607	71,067	16,844
Willow	83,020	1,926	20,196	37,113	23,785
Hackberry	20,823	2,874	13,495	3,580	874
Balsam poplar	133,678	6,363	27,492	69,979	29,844
Bigtooth aspen	2,038,004	136,365	798,170	1,034,982	68,487
Quaking aspen	3,292,105	201,336	797,346	1,899,295	394,128
Paper birch	883,152	32,284	252,107	547,895	50,866
River birch	20,317	--	8,917	11,400	--
Black cherry	345,189	36,065	112,006	189,585	7,533
Black walnut	164,479	22,496	68,540	68,822	4,621
Butternut	89,717	6,278	33,616	49,823	--
Other hardwoods	93,433	--	18,006	65,510	9,917
Total	33,407,903	5,750,065	10,031,426	14,898,991	2,727,421
All species	48,020,407	7,080,162	12,056,412	25,816,086	3,067,747

Table 66.—Average net annual growth of growing stock on timberland by species group and ownership class, Wisconsin, 1983-1995

(In thousand cubic feet)

Species group	Total	Ownership class							
		National forest	Other federal	State	County and municipal	Indian	Forest industry	Individual	Corporate
Softwoods									
Jack pine	10,061	237	465	449	2,858	155	1,583	3,816	498
Red pine	45,877	5,463	543	3,829	8,455	572	2,964	21,969	2,082
White pine	28,976	1,382	823	2,371	3,261	1,235	1,100	17,300	1,504
White spruce	11,557	3,598	10	935	1,931	85	1,129	3,870	-1
Black spruce	2,209	158	--	27	343	-95	265	1,426	85
Balsam fir	7,691	578	75	1,230	-281	-57	679	5,558	-91
Hemlock	6,639	907	2	175	280	1,267	804	2,600	604
Tamarack	5,529	384	-97	347	682	68	131	3,724	290
Eastern redcedar	716	--	--	6	--	--	--	604	106
Northern white-cedar	10,161	1,357	-42	180	1,221	-69	1,013	6,430	71
Other softwoods	699	--	--	119	88	--	--	494	-2
Total softwoods	130,115	14,064	1,779	9,668	18,838	3,161	9,668	67,791	5,146
Hardwoods									
Select white oak	16,698	42	71	681	808	94	221	14,046	735
Select red oak	43,890	2,040	212	1,838	6,125	1,770	1,799	28,440	1,666
Other red oak	12,372	50	521	533	1,319	-54	188	8,960	855
Select hickory	3,196	--	--	66	--	--	--	3,040	90
Other hickory	2,980	16	36	201	156	64	211	2,262	34
Basswood	20,364	2,083	67	498	2,191	280	2,652	11,641	952
Beech	988	29	--	10	20	353	-41	541	76
Yellow birch	1,522	175	-2	-58	30	212	149	698	318
Hard maple	60,360	10,277	36	1,774	7,533	2,800	9,123	26,307	2,510
Soft maple	64,974	4,664	1,324	2,572	9,690	958	5,803	38,275	1,688
Elm	6,233	-511	79	-410	-994	-33	-287	7,931	458
Black ash	10,893	1,077	48	545	1,111	-132	533	7,187	524
White & green ash	20,305	1,232	-136	456	1,517	236	1,120	15,291	589
Cottonwood	1,315	--	171	109	98	--	--	856	81
Willow	217	--	-20	58	17	--	--	138	24
Hackberry	403	--	46	-27	14	--	55	313	2
Balsam poplar	729	146	--	-24	136	48	38	360	25
Bigtooth aspen	21,440	1,704	183	1,038	3,718	416	824	12,804	753
Quaking aspen	52,728	6,015	273	2,396	11,420	63	5,093	25,728	1,740
Paper birch	7,513	789	12	885	1,101	252	521	3,764	189
River birch	348	--	-19	219	--	--	16	137	-5
Tupelo	8	--	--	--	--	--	--	8	--
Black cherry	5,924	291	--	208	255	70	-43	4,888	255
Black walnut	1,581	1	6	29	13	--	--	1,542	-10
Butternut	-591	-59	--	15	4	-37	27	-509	-32
Other hardwoods	3,585	--	16	27	49	--	50	3,364	79
Total hardwoods	359,975	30,061	2,924	13,639	46,331	7,360	28,052	218,012	13,596
All species	490,090	44,125	4,703	23,307	65,169	10,521	37,720	285,803	18,742

Table 67.--Average net annual growth of sawtimber on timberland by species group and ownership class, Wisconsin, 1983-1995

(In thousand board feet)[1]

Species group	Total	Ownership class							
		National forest	Other federal	State	County and municipal	Indian	Forest industry	Individual	Corporate
Softwoods									
Jack pine	34,586	3,054	1,258	1,778	6,909	519	4,328	15,338	1,402
Red pine	165,242	27,789	3,118	11,368	29,398	1,287	6,945	77,027	8,310
White pine	139,224	7,923	3,798	11,804	16,558	6,425	6,294	79,241	7,181
White spruce	44,972	14,726	61	2,053	9,022	458	4,049	14,421	182
Black spruce	4,271	-230	--	746	1,092	390	-117	2,315	75
Balsam fir	25,473	3,952	1,045	1,678	4,954	-359	1,551	12,878	-226
Hemlock	33,245	5,599	12	952	859	7,015	4,272	11,137	3,399
Tamarack	10,979	1,683	-475	448	980	-5	217	7,163	968
Eastern redcedar	762	--	--	--	--	--	--	733	29
Northern white-cedar	32,989	7,151	-98	-346	5,379	-1,473	4,309	17,318	749
Other softwoods	1,175	--	--	249	--	--	--	939	-13
Total softwoods	492,918	71,647	8,719	30,730	75,151	14,257	31,848	238,510	22,056
Hardwoods									
Select white oak	74,424	47	131	3,219	2,164	321	1,186	65,000	2,356
Select red oak	209,689	10,073	724	7,456	26,374	10,036	7,673	138,573	8,780
Other red oak	60,449	57	1,273	2,704	4,890	94	1,268	46,649	3,514
Select hickory	9,741	--	--	90	--	--	--	9,448	203
Other hickory	4,241	223	78	385	744	123	425	2,330	-67
Basswood	83,330	12,383	156	1,240	11,388	2,199	10,425	41,833	3,706
Beech	3,770	67	--	--	40	1,664	-225	1,489	735
Yellow birch	7,198	1,007	214	-784	802	1,174	1,208	2,171	1,406
Hard maple	180,208	31,179	56	5,932	17,961	11,827	24,459	79,706	9,088
Soft maple	145,773	10,556	5,047	5,248	17,061	2,353	13,229	87,302	4,977
Elm	3,337	-908	111	-1,216	-2,971	-284	-505	7,683	1,427
Black ash	19,254	1,548	77	2,008	1,566	-210	951	12,336	978
White & green ash	63,759	5,347	-629	1,291	6,931	1,055	5,900	43,258	606
Cottonwood	4,934	--	935	479	263	--	--	3,064	193
Willow	750	--	93	236	33	--	--	192	196
Hackberry	1,362	--	308	135	--	--	--	909	10
Balsam poplar	2,456	451	--	46	666	140	91	1,156	-94
Bigtooth aspen	96,838	9,590	542	7,364	9,432	2,162	1,844	61,801	4,103
Quaking aspen	161,113	19,877	363	6,424	30,559	2,569	11,342	82,309	7,670
Paper birch	27,397	3,551	-85	3,559	3,623	905	1,053	14,328	463
River birch	2,126	--	-201	1,550	--	--	--	549	228
Black cherry	16,603	927	--	637	378	33	1,123	12,863	642
Black walnut	4,557	60	34	--	60	--	--	4,257	146
Butternut	-1,080	-180	--	4	-89	--	62	-513	-302
Other hardwoods	5,365	--	--	--	53	--	--	4,939	373
Total hardwoods	1,187,656	105,855	9,227	48,007	131,928	36,161	81,509	723,632	51,337
All species	1,680,574	177,502	17,946	78,737	207,079	50,418	113,357	962,142	73,393

[1]International 1/4-inch rule.

Table 68.--Current net annual growth of growing stock on timberland by species group and ownership class, Wisconsin, 1995

(In thousand cubic feet)

Species group	All owners	Ownership class							
		National forest	Other federal	State	County and municipal	Indian	Forest industry	Individual	Corporate
Softwoods									
Jack pine	9,461	90	608	493	2,669	103	1,148	3,912	438
Red pine	47,599	5,553	525	3,718	8,780	586	3,666	22,739	2,032
White pine	29,253	1,551	647	1,995	3,418	1,128	902	18,080	1,532
White spruce	17,177	4,011	10	1,335	3,920	70	1,452	6,223	156
Black spruce	2,153	-74	--	169	388	-349	445	1,227	347
Balsam fir	12,986	1,136	57	480	1,981	49	1,520	7,663	100
Hemlock	6,328	971	2	156	365	1,187	579	2,486	582
Tamarack	3,387	492	-92	226	368	31	105	2,126	131
Eastern redcedar	890	--	--	6	--	--	--	773	111
Northern white-cedar	8,633	506	9	268	870	-122	566	6,203	333
Other softwoods	637	--	--	112	90	--	--	437	-2
Total softwoods	138,504	14,236	1,766	8,958	22,849	2,683	10,383	71,869	5,760
Hardwoods									
Select white oak	18,227	43	68	746	1,045	126	301	15,186	712
Select red oak	40,243	2,238	232	1,453	6,346	1,334	1,397	25,671	1,572
Other red oak	14,013	84	518	596	1,570	44	260	10,103	838
Select hickory	3,284	--	--	82	--	--	--	3,110	92
Other hickory	3,542	8	37	188	112	53	129	2,884	131
Basswood	21,860	2,240	56	604	2,577	388	2,169	12,843	983
Beech	1,277	28	--	10	18	404	35	706	76
Yellow birch	1,753	55	-33	51	117	-23	35	1,235	316
Hard maple	62,990	10,719	36	2,071	7,324	2,611	8,885	28,512	2,832
Soft maple	71,372	4,651	929	2,959	11,410	1,207	5,114	42,608	2,494
Elm	14,354	86	-31	158	8	-15	-71	13,472	747
Black ash	12,708	1,192	22	611	1,436	-252	784	8,352	563
White & green ash	23,165	1,255	30	641	1,702	256	1,152	17,481	648
Cottonwood	1,160	--	106	109	86	--	--	801	58
Willow	515	--	40	58	17	--	--	353	47
Hackberry	420	--	46	4	14	--	58	296	2
Balsam poplar	894	141	--	18	68	13	47	515	92
Bigtooth aspen	20,941	1,617	190	910	3,377	291	797	13,078	681
Quaking aspen	63,849	7,103	249	2,894	14,723	906	5,825	29,998	2,151
Paper birch	9,301	900	40	325	1,183	451	572	5,623	207
River birch	421	--	19	175	--	--	5	159	63
Tupelo	8	--	--	--	--	--	--	8	--
Black cherry	7,920	410	--	143	438	29	95	6,582	223
Black walnut	1,589	3	6	29	-2	--	--	1,526	27
Butternut	96	5	--	5	14	--	27	93	-48
Other hardwoods	4,013	--	16	27	49	--	56	3,786	79
Total hardwoods	399,915	32,778	2,576	14,867	53,632	7,823	27,672	244,981	15,586
All species	538,419	47,014	4,342	23,825	76,481	10,506	38,055	316,850	21,346

Table 69.--Current net annual growth of sawtimber on timberland by species group and ownership class, Wisconsin, 1995

(In thousand board feet)[1]

Species group	Total	Ownership class							
		National forest	Other federal	State	County and municipal	Indian	Forest industry	Individual	Corporate
Softwoods									
Jack pine	35,598	1,288	2,078	1,288	8,842	892	1,232	18,599	1,379
Red pine	197,363	28,956	3,624	14,625	42,956	2,806	5,816	88,139	10,441
White pine	149,787	8,728	2,866	9,971	18,782	6,585	5,591	89,059	8,205
White spruce	57,891	14,432	61	4,187	14,006	313	4,448	18,694	1,750
Black spruce	2,874	-285	--	39	968	539	160	1,122	331
Balsam fir	49,895	5,928	1,045	1,453	10,707	-288	4,835	26,370	-155
Hemlock	34,082	5,898	13	775	1,547	6,231	3,643	11,977	3,998
Tamarack	7,175	722	-430	770	1,036	-149	-474	5,927	-227
Eastern redcedar	908	--	--	--	--	--	--	864	44
Northern white-cedar	25,245	3,108	61	911	3,573	-1,171	3,957	13,727	1,079
Other softwoods	1,456	--	--	145	--	--	--	1,324	-13
Total softwoods	562,274	68,775	9,318	34,164	102,417	15,758	29,208	275,802	26,832
Hardwoods									
Select white oak	81,046	17	446	3,756	1,732	943	1,023	70,302	2,827
Select red oak	202,218	11,087	701	8,674	29,127	10,018	6,788	127,685	8,138
Other red oak	58,723	57	1,084	2,544	4,329	423	1,260	45,557	3,469
Select hickory	10,079	--	--	136	--	--	--	9,805	138
Other hickory	4,160	184	78	207	515	137	217	2,796	26
Basswood	85,303	15,585	33	1,698	11,011	3,205	9,578	40,986	3,207
Beech	4,766	67	--	65	40	1,823	58	1,978	735
Yellow birch	5,510	16	-53	-90	38	-18	443	4,422	752
Hard maple	197,279	35,063	--	5,826	20,630	10,797	26,840	90,095	8,028
Soft maple	152,255	11,865	3,497	6,525	20,569	4,191	10,389	87,936	7,283
Elm	15,809	-53	-16	315	-905	-34	-413	15,337	1,578
Black ash	18,792	915	77	3,251	1,539	-900	212	12,378	1,320
White & green ash	76,983	5,316	226	1,947	7,952	1,445	6,063	53,228	806
Cottonwood	4,937	--	563	479	250	--	--	3,448	197
Willow	2,266	--	203	236	33	--	--	1,548	246
Hackberry	1,825	--	308	135	--	--	--	1,372	10
Balsam poplar	2,473	346	--	15	542	--	515	1,055	--
Bigtooth aspen	97,197	8,181	542	6,884	8,686	977	901	67,456	3,570
Quaking aspen	169,132	17,189	513	8,221	31,221	4,382	10,916	89,741	6,949
Paper birch	29,857	4,459	--	2,041	4,477	2,769	772	14,240	1,099
River birch	2,533	--	--	1,346	--	--	--	834	353
Black cherry	16,790	540	--	356	1,938	23	894	12,426	613
Black walnut	5,048	20	34	472	-9	--	--	4,396	135
Butternut	557	311	--	4	395	--	62	-362	147
Other hardwoods	6,262	--	--	--	53	--	--	5,836	373
Total hardwoods	1,251,800	111,165	8,236	55,043	144,163	40,181	76,518	764,495	51,999
All species	1,814,074	179,940	17,554	89,207	246,580	55,939	105,726	1,040,297	78,831

[1]International 1/4-inch rule.

Table 70.--Average annual mortality of growing stock on timberland by species group and cause of death, Wisconsin, 1983-1995

(In thousand cubic feet)

Species group	All causes	Cause of death								
		Insects	Disease	Weather	Animals	Fire	Suppression	Vine damage	Human caused	Other and unknown
Softwoods										
Jack pine	8,717	3,266	457	100	3	33	--	--	56	4,802
Red pine	1,008	85	81	--	--	--	--	--	9	833
White pine	3,870	1,471	92	165	3	--	31	--	54	2,054
White spruce	1,355	444	101	96	1	13	--	--	10	690
Black spruce	3,189	1,483	194	25	--	22	14	--	13	1,438
Balsam fir	17,123	5,823	515	131	22	98	77	--	250	10,207
Hemlock	1,446	390	92	14	59	--	--	--	8	883
Tamarack	3,135	1,573	240	9	5	--	--	--	35	1,273
Eastern redcedar	13	--	--	--	--	--	--	--	--	13
Northern white-cedar	3,207	1,153	390	34	12	58	--	--	22	1,538
Other softwoods	19	3	--	--	--	--	--	--	--	16
Total softwoods	43,082	15,691	2,162	574	105	224	122	--	457	23,747
Hardwoods										
Select white oak	1,961	382	244	19	20	--	--	1	61	1,234
Select red oak	10,882	4,323	1,866	106	9	25	36	12	254	4,251
Other red oak	7,845	2,473	883	--	14	53	--	45	195	4,182
Select hickory	653	335	48	3	3	--	--	2	8	254
Other hickory	938	261	63	--	13	--	--	6	21	574
Basswood	8,344	3,476	810	65	76	29	22	8	208	3,650
Beech	179	44	25	--	--	--	--	--	6	104
Yellow birch	3,258	864	376	21	9	22	--	--	23	1,943
Hard maple	6,101	2,111	677	86	32	--	--	--	244	2,951
Soft maple	8,920	3,458	832	488	49	--	--	3	377	3,713
Elm	13,722	3,439	4,299	44	65	46	--	77	255	5,497
Black ash	3,710	1,156	221	199	13	23	--	3	14	2,081
White & green ash	2,761	813	247	125	46	--	--	7	261	1,262
Cottonwood	353	88	9	29	--	--	--	3	6	218
Willow	316	34	4	36	--	--	--	1	2	239
Hackberry	34	27	2	1	--	--	--	--	--	4
Balsam poplar	1,384	631	90	--	--	--	--	3	9	651
Bigtooth aspen	9,886	4,239	1,557	73	7	--	--	10	138	3,862
Quaking aspen	40,929	13,309	6,807	123	68	230	16	29	236	20,111
Paper birch	20,358	6,098	1,999	124	2	33	20	39	178	11,865
River birch	161	30	8	--	1	--	--	--	2	120
Tupelo	1	--	--	--	1	--	--	--	--	--
Black cherry	2,089	496	186	1	--	--	--	79	77	1,250
Black walnut	166	84	6	--	--	--	--	4	2	70
Butternut	1,127	102	107	55	--	--	--	10	--	853
Other hardwoods	710	256	136	11	--	--	--	11	34	262
Total hardwoods	146,788	48,529	21,502	1,609	428	461	94	353	2,611	71,201
All species	189,870	64,220	23,664	2,183	533	685	216	353	3,068	94,948

Table 71.--Average annual mortality of sawtimber on timberland by species group and cause of death, Wisconsin, 1983-1995

(In thousand board feet)[1]

Species group	All causes	Cause of death								
		Insects	Disease	Weather	Animals	Fire	Suppression	Vine damage	Human caused	Other and unknown
Softwoods										
Jack pine	23,667	9,795	1,800	159	--	146	--	--	31	11,736
Red pine	4,306	449	64	--	--	--	--	--	9	3,784
White pine	15,922	6,673	339	316	6	--	139	--	265	8,184
White spruce	6,061	2,300	484	518	7	--	--	--	28	2,724
Black spruce	2,761	1,556	74	--	--	--	--	--	26	1,105
Balsam fir	30,966	9,017	1,124	248	--	333	--	--	289	19,955
Hemlock	7,334	2,062	477	--	319	--	--	--	36	4,440
Tamarack	7,988	3,792	962	48	--	--	--	--	32	3,154
Eastern redcedar	3	2	1	--	--	--	--	--	--	--
Northern white-cedar	12,680	4,669	2,013	98	47	304	--	--	32	5,517
Other softwoods	94	15	--	--	--	--	--	--	--	79
Total softwoods	111,782	40,330	7,338	1,387	379	783	139	--	748	60,678
Hardwoods										
Select white oak	4,834	1,290	569	79	99	--	--	4	164	2,629
Select red oak	33,794	13,419	6,957	426	34	--	--	49	456	12,453
Other red oak	19,109	5,630	3,309	--	33	161	--	222	350	9,404
Select hickory	1,135	448	127	--	5	--	--	--	9	546
Other hickory	1,010	203	132	--	12	--	--	--	27	636
Basswood	20,785	9,377	3,141	94	296	114	--	20	126	7,617
Beech	478	101	24	--	--	--	--	--	12	341
Yellow birch	7,335	2,236	1,049	110	32	--	--	--	47	3,861
Hard maple	11,364	3,550	1,394	116	96	--	--	--	187	6,021
Soft maple	15,699	5,819	2,004	1,087	209	--	--	7	662	5,911
Elm	27,514	6,316	9,447	115	216	201	--	--	592	10,627
Black ash	6,299	1,522	558	213	--	--	--	13	6	3,987
White & green ash	7,540	2,139	921	558	183	--	--	13	759	2,967
Cottonwood	1,474	245	36	111	--	--	--	10	32	1,040
Willow	1,039	102	13	96	--	--	--	2	8	818
Hackberry	68	59	5	--	--	--	--	1	--	3
Balsam poplar	3,220	1,352	317	--	--	--	--	--	18	1,533
Bigtooth aspen	25,636	11,795	4,814	114	32	--	--	45	305	8,531
Quaking aspen	64,733	22,358	11,173	104	224	402	--	75	364	30,033
Paper birch	19,592	5,840	1,911	166	--	--	--	--	180	11,495
River birch	436	62	31	--	--	--	--	--	11	332
Black cherry	1,845	575	318	6	--	--	--	48	42	856
Black walnut	391	286	14	--	2	--	--	13	--	76
Butternut	3,147	241	350	142	--	--	--	47	--	2,367
Other hardwoods	1,552	305	335	20	--	--	--	--	151	741
Total hardwoods	280,029	95,270	48,949	3,557	1,473	878	--	569	4,508	124,825
All species	391,811	135,600	56,287	4,944	1,852	1,661	139	569	5,256	185,503

[1] International 1/4-inch rule.

Table 72.--All live tree biomass on timberland by species group and tree biomass component, Wisconsin, 1996

(In thousand cubic feet)

Species group	All components	Tree biomass component						
		All live 1-5-inch trees	Growing-stock trees			Non-growing-stock trees		
			Stumps	Boles	Tops and limbs	Stumps	Boles	Tops and limbs
Softwoods								
Jack pine	646,196	64,171	35,237	458,724	56,466	2,065	26,264	3,269
Red pine	1,464,803	74,506	80,223	1,160,976	136,104	870	10,750	1,374
White pine	1,402,676	46,468	66,385	1,112,854	117,427	3,489	50,529	5,524
White spruce	411,991	38,306	25,133	265,722	72,478	770	7,421	2,161
Black spruce	444,011	183,240	17,186	180,331	60,269	193	2,103	689
Balsam fir	1,138,485	327,880	59,889	552,934	175,686	1,616	15,780	4,700
Hemlock	761,609	18,288	42,439	512,759	120,224	4,429	50,938	12,532
Tamarack	485,499	93,196	25,392	307,787	39,448	1,262	16,484	1,930
Eastern redcedar	27,540	8,912	748	8,156	2,557	453	5,166	1,548
Northern white-cedar	1,290,890	123,492	93,167	662,088	194,661	20,859	153,771	42,852
Other softwoods	29,047	3,498	1,429	15,274	4,579	290	3,071	906
Total softwoods	8,102,747	981,957	447,228	5,237,605	979,899	36,296	342,277	77,485
Hardwoods								
Select white oak	2,129,950	71,142	99,810	1,157,242	344,372	27,333	338,190	91,861
Select red oak	3,240,126	67,619	151,135	2,082,034	608,726	17,343	246,036	67,233
Other red oak	1,572,532	59,131	69,670	808,138	249,777	23,608	278,952	83,256
Select hickory	270,078	23,138	13,179	155,255	50,358	1,680	20,036	6,432
Other hickory	204,872	29,882	9,674	104,472	36,953	1,407	16,945	5,539
Basswood	2,120,417	108,616	99,197	1,325,550	418,461	9,061	123,760	35,772
Beech	100,298	8,534	4,047	56,442	16,525	809	10,630	3,311
Yellow birch	662,515	47,213	28,328	320,359	102,198	10,386	117,204	36,827
Hard maple	4,640,689	441,822	186,839	2,575,858	835,799	30,465	436,686	133,220
Soft maple	4,412,942	542,133	174,140	2,266,062	773,847	34,533	471,002	151,225
Elm	758,774	153,801	33,659	327,077	113,055	9,056	91,858	30,268
Black ash	1,089,535	199,588	56,349	550,280	196,167	6,047	60,225	20,879
White & green ash	1,108,923	98,857	48,552	646,784	208,459	5,707	76,319	24,245
Cottonwood	94,123	856	5,008	60,372	15,446	696	9,596	2,149
Willow	89,053	1,150	2,485	26,428	7,310	2,546	41,783	7,351
Hackberry	26,368	5,935	1,039	11,922	3,857	244	2,564	807
Balsam poplar	100,828	9,058	3,358	61,377	19,665	288	5,354	1,728
Bigtooth aspen	1,509,475	164,566	46,781	934,563	226,227	5,206	107,325	24,807
Quaking aspen	3,971,930	628,659	133,916	2,146,808	551,825	22,500	395,129	93,093
Paper birch	1,792,106	180,786	74,690	1,010,986	360,754	8,410	116,229	40,251
River birch	28,634	1,299	1,231	15,569	5,295	276	3,852	1,112
Tupelo	536	--	28	378	130	--	--	--
Black cherry	612,304	135,405	17,197	236,618	81,472	7,530	99,101	34,981
Black walnut	116,841	4,853	4,100	59,656	18,180	1,519	22,114	6,419
Butternut	86,985	2,333	2,305	34,884	10,648	1,748	26,787	8,280
Other hardwoods	305,538	48,689	7,791	82,367	29,338	8,762	96,517	32,074
Total hardwoods	31,046,372	3,035,065	1,274,508	17,057,481	5,284,844	237,160	3,214,194	943,120
Noncommercial spp.	355,040	230,189	--	--	--	9,122	82,437	33,292
All species	39,504,159	4,247,211	1,721,736	22,295,086	6,264,743	282,578	3,638,908	1,053,897

Table 73.--All live shrub[1] and tree seedling biomass yields on timberland by species group and forest type, Wisconsin, 1996

(In pounds per acre green weight)

Species group	Mean for all types	Forest type													
		Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-basswood	Aspen	Paper birch	Nonstocked
Commercial tree species															
Jack pine	10	119	40	--	--	--	1	--	236	--	--	--	2	--	--
Red pine	3	--	32	--	--	--	--	--	--	--	--	2	2	--	--
White pine	18	--	12	86	23	--	30	--	--	7	--	22	20	21	--
White spruce	8	--	--	--	1	42	--	--	--	--	1	15	9	--	--
Black spruce	76	--	--	--	18	--	1,980	--	377	23	--	2	1	5	--
Balsam fir	483	422	37	377	1,443	19	215	797	283	64	514	451	439	2,014	--
Hemlock	28	--	--	--	--	--	--	63	--	--	--	64	--	63	--
Tamarack	20	--	--	--	--	--	127	--	434	--	--	9	7	--	--
Eastern redcedar	3	--	--	--	--	--	--	--	--	23	--	3	--	--	--
Northern white-cedar	1	--	--	--	5	2	--	23	--	--	1	1	--	--	--
Select white oak	12	37	29	--	--	--	--	--	--	123	3	--	5	--	--
Select red oak	223	13	141	86	6	2	3	--	--	30	2	41	725	24	--
Other red oak	24	--	430	--	--	1	--	1	--	61	--	1	--	--	--
Other hickory	3	--	--	--	--	--	--	--	--	16	--	4	--	--	--
Basswood	37	--	--	--	--	--	--	--	--	52	1	68	28	1	--
Yellow birch	12	--	1	--	--	--	--	82	--	--	5	26	--	2	--
Hard maple	257	--	10	--	46	39	2	66	--	417	15	462	141	339	--
Soft maple	324	5	171	143	35	--	26	38	120	193	152	239	705	139	--
Elm	54	--	--	--	--	--	--	--	--	306	63	73	4	--	--
Black ash	84	--	--	--	--	--	--	195	--	101	310	94	57	34	161
White & green ash	87	--	1	--	5	--	2	--	--	188	16	114	88	158	--
Willow	8	--	--	--	--	--	--	--	--	--	--	--	30	--	--
Balsam poplar	1	--	--	--	--	--	--	--	3	--	--	1	2	--	--
Bigtooth aspen	204	29	--	--	--	--	52	--	--	2	--	4	737	--	--
Quaking aspen	559	18	17	--	124	--	400	16	--	31	--	65	1,905	6	--
Paper birch	48	--	6	243	2	13	--	--	--	2	--	17	141	12	--
Black cherry	68	2	3	23	19	--	3	1	10	74	12	67	129	37	--
Other hardwoods	1,431	27	117	--	1,800	126	857	6,157	2,759	151	6,617	924	1,020	2,214	3,715
Mountain maple	43	--	--	--	100	--	--	5	--	--	95	63	39	4	--
American hornbeam	59	--	--	--	--	--	13	--	--	46	1	149	--	--	--
Apple	3	--	--	--	--	--	--	--	--	--	--	8	--	--	--
Eastern hophornbeam	176	--	3	--	--	--	6	--	--	127	13	244	249	193	--
Total	4,367	672	1,050	958	3,627	244	3,717	7,444	4,222	2,037	7,821	3,233	6,485	5,266	3,876

(Table 73 continued on next page)

(Table 73 continued)

Species group	Mean for all types	Forest type														
		Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-basswood	Aspen	Paper birch	Nonstocked
Noncommercial tree species															
Mountain maple	43	--	--	--	100	--	--	5	--	--	95	63	39	4	--
American hornbeam	59	--	--	--	--	--	13	--	--	46	1	149	--	--	--
Apple	3	--	--	--	--	--	--	--	--	--	--	8	--	--	--
Eastern hophornbeam	176	--	3	--	--	--	6	--	--	127	13	244	249	193	--
Pincherry	11	8	5	--	35	--	--	--	20	--	--	24	1	--	--
Chokecherry	47	7	2	10	--	--	--	--	--	89	13	49	78	--	--
Wild plum	4	--	--	--	--	--	--	--	--	--	1	10	1	--	--
Total	343	15	10	10	135	--	19	5	20	262	123	547	368	197	--
Tall shrub species															
Dogwood	88	35	2	--	54	--	--	4	206	82	164	34	179	61	1,746
Black alder	89	--	--	--	--	--	6	--	140	36	395	2	202	--	--
Witch hazel	11	5	--	--	--	--	--	--	--	1	--	28	--	--	--
Juneberry	91	185	262	24	8	5	25	--	1	108	274	13	147	75	--
Hazel	702	864	729	2,239	371	11	--	--	44	419	315	561	1,228	685	--
Prickly ash	113	--	--	--	--	--	--	--	--	208	208	203	28	11	--
Alder buckthorn	14	--	--	--	--	--	--	--	--	54	9	20	9	--	--
Leatherwood	4	--	--	--	--	--	85	--	--	1	--	1	1	--	--
Viburnum	17	--	--	--	10	--	--	--	--	13	20	30	14	--	--
Elder	4	--	--	--	--	1	--	--	--	10	--	--	12	--	--
Sumac	1	54	--	--	--	--	--	--	--	--	--	--	--	--	--
Shrubby willows	6	33	65	--	--	--	--	--	--	--	--	--	8	3	--
Misc. tall shrubs	61	5	1	--	51	--	--	22	664	49	85	16	77	197	--
Total	1,201	1,181	1,059	2,263	494	17	116	26	1,055	981	1,470	908	1,905	1,032	1,746
Low shrub species															
Virginia creeper	4	--	--	--	--	--	--	--	--	12	6	5	2	1	13
Labrador tea	18	42	--	--	15	--	271	23	163	1	--	--	8	31	--
Leatherleaf	5	--	--	--	3	--	82	--	43	1	--	2	1	2	--
Bog laurel	2	3	--	--	--	--	22	--	31	--	--	--	--	2	--
Sweetfern	3	6	16	--	--	--	--	--	--	14	--	2	2	--	--
Gooseberry-current	7	--	--	--	--	8	--	5	5	8	13	10	4	2	31
Raspberry-blackberry	43	84	42	33	32	11	--	49	7	22	83	28	68	19	--
Bilberry-blueberry	22	41	106	18	15	2	57	10	77	25	3	4	31	7	--
Bush honeysuckle	4	12	5	--	11	--	--	--	--	--	3	--	9	5	--
Honeysuckle	4	1	2	--	5	8	--	13	--	5	1	5	6	3	--
Poison ivy	4	5	--	--	--	--	--	--	--	35	1	3	1	--	--
Greenbriar	1	--	--	--	--	--	--	--	--	1	1	--	1	--	--
Strawberry	9	25	24	4	5	1	--	8	--	2	17	5	14	6	--
Misc. low shrubs	4	8	3	61	--	--	2	--	13	2	--	3	6	6	--
Total	130	226	199	116	86	31	440	108	349	129	130	70	155	83	44
All species	6,041	2,094	2,318	3,347	4,342	292	4,292	7,583	5,646	3,409	9,544	4,758	8,913	6,578	5,666

[1] Includes trees less than 1.0 inch d.b.h.

Table 74. --Area of forest land by habitat type group/habitat type and forest type, Wisconsin, 1996

Habitat type group/ Habitat type	Total	Forest Type														
		Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-beech-birch	Aspen	Paper birch	Balsam poplar	Non-stocked
								(Thousand acres)								
QAc	97.5	23.0	32.5	*	*	*	*	*	*	40.6	*	*	1.2	*	*	0.2
ArQTr	46.4	12.3	14.9	*	*	*	*	*	*	15.0	*	3.1	1.1	*	*	*
QArE	3.3	3.3	*	*	*	*	*	*	*	*	*	*	*	*	*	*
QGCe	152.3	38.5	23.3	*	*	*	*	*	*	58.6	*	*	31.9	*	*	*
ArQV	164.2	31.3	27.4	9.5	*	*	*	*	*	6.5	*	2.6	76.7	10.2	*	*
ArQV-Sm	156.9	12.4	28.9	1.2	*	1.1	*	*	*	34.0	*	8.2	59.4	11.7	*	*
QV	129.0	19.0	16.3	2.8	*	*	*	*	*	37.0	*	10.3	43.6	*	*	*
QAp	42.5	9.5	*	*	*	*	*	*	*	26.4	*	6.6	*	*	*	*
1. North very dry to dry	792.1	149.3	143.3	13.5	*	1.1	*	*	*	218.1	*	30.8	213.9	21.9	*	0.2
PAm	163.5	11.5	4.1	3.4	*	*	*	*	*	52.1	*	21.5	69.1	1.8	*	*
PAm-At	6.4	*	*	*	*	*	*	*	*	*	*	1.5	4.9	*	*	*
PMV	301.9	7.0	31.1	16.0	4.9	5.9	*	*	*	20.3	*	40.0	141.5	35.2	*	*
PMV-Q	28.6	4.8	3.1	0.5	*	*	*	*	*	9.3	*	3.0	7.1	0.8	*	*
PMV-Vb	147.5	*	12.6	3.4	*	*	*	*	*	15.1	3.3	25.6	84.2	3.3	*	*
PMV-Po	67.5	3.1	5.2	3.4	*	*	*	*	*	9.3	*	24.4	22.1	*	*	*
2. North dry to dry-mesic	715.4	26.4	56.1	26.7	4.9	5.9	*	*	*	106.1	3.3	116.0	328.9	41.1	*	*
FArAa	8.6	*	*	*	0.4	0.8	*	*	*	*	*	7.4	*	*	*	*
AVVb	203.3	*	4.0	3.8	6.0	1.4	*	*	*	17.0	3.3	61.2	87.4	19.2	*	*
AVDe	155.1	*	*	6.0	*	*	*	*	*	54.0	*	58.3	32.8	4.0	*	*
ACl-V	45.8	*	3.0	*	*	*	*	*	*	*	*	15.6	15.7	11.5	*	*
ACl	27.3	*	*	*	1.2	*	*	*	*	4.9	*	15.0	2.8	3.4	*	*
AQVb-V	75.1	*	5.7	*	*	*	*	*	*	25.9	*	23.4	13.8	6.3	*	*
AQVb	185.0	*	6.8	0.5	*	*	*	*	*	29.4	*	69.3	62.4	16.6	*	*
AQVb-Ha	60.2	*	3.1	*	*	*	*	*	*	14.8	*	20.8	19.9	1.6	*	*
AAt	211.0	*	3.7	1.1	*	*	*	*	*	57.6	3.1	107.8	35.9	1.8	*	*
AFTPo	7.3	*	*	1.8	*	*	*	*	*	*	*	4.4	1.1	*	*	*
AVb	27.6	*	*	*	*	*	*	*	*	11.4	*	3.1	13.1	*	*	*
AFVb	84.9	*	*	3.1	*	*	*	*	*	13.8	*	51.5	16.5	*	*	*
3. North dry-mesic to mesic	1,091.2	*	26.3	16.3	7.6	2.2	*	*	*	228.8	6.4	437.8	301.4	64.4	*	*

(Table 74 continued on next page)

(Table 74 continued)

Habitat type group/ Habitat type	Total	Forest Type: Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-beech-birch	Aspen	Paper birch	Balsam poplar	Non-stocked
									(Thousand acres)							
ATM	792.1	1.0	11.9	8.8	3.1	4.2	*	*	*	26.3	7.5	516.0	193.8	19.1	*	0.4
AFSt	10.0	*	*	*	*	*	*	*	*	*	*	4.3	2.7	3.0	*	*
AAs	31.4	*	*	*	*	*	*	*	*	3.0	3.0	9.5	12.7	3.2	*	*
ATFD	48.5	*	*	*	*	*	*	*	*	0.5	*	39.7	8.3	*	*	*
ATD	192.9	*	*	*	*	*	*	*	*	*	*	181.9	11.0	*	*	*
ATDH	60.5	*	1.9	*	*	*	*	*	*	*	*	45.2	9.1	4.3	*	*
ACaCi	145.5	*	*	3.7	*	*	*	*	*	46.2	*	70.1	17.9	7.6	*	*
ACaCi-H	72.3	*	5.6	*	*	*	*	*	*	9.6	*	46.3	5.0	2.0	*	3.8
AFAl	22.6	*	*	*	*	*	*	*	*	*	*	21.0	1.6	*	*	*
AFAd	40.2	*	*	*	*	*	*	*	*	3.6	*	36.6	*	*	*	*
AViO	483.7	*	5.0	*	*	8.4	*	*	*	*	3.3	399.9	66.6	0.5	*	*
AViO-Ca	27.6	*	*	*	*	*	*	*	*	*	*	27.6	*	*	*	*
AHVb	17.8	*	*	*	*	*	*	*	*	2.9	*	13.7	1.2	*	*	*
AH-Ci	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AH	342.1	*	*	*	*	*	*	*	*	9.8	2.4	312.7	15.6	*	1.6	*
4. North mesic	2,287.2	1.0	24.4	12.5	3.1	12.6	*	*	*	101.9	16.2	1,724.5	345.5	39.7	1.6	4.2
ArCo	50.1	*	3.0	*	6.4	3.8	*	*	2.1	*	2.8	1.5	30.5	*	*	*
TMC-V	242.0	2.8	9.3	9.6	26.4	3.7	3.6	2.2	*	*	10.3	37.6	121.8	14.7	*	*
TMC	406.1	6.0	8.9	10.2	38.6	2.1	0.2	1.0	*	2.8	34.5	186.1	84.5	29.0	*	2.2
TMC-D	63.9	*	*	*	*	3.2	*	3.7	*	*	6.2	44.0	4.0	2.8	*	*
ATM-As	106.1	*	*	*	3.2	*	*	*	*	0.8	11.7	76.0	11.6	2.8	*	*
ATD-I	49.2	*	*	*	*	*	*	*	*	*	*	47.8	1.4	*	*	*
ACaCi-I	90.8	*	*	*	*	*	*	*	*	19.7	7.0	34.5	29.6	*	*	*
AViO-I	129.9	*	*	*	*	*	*	*	*	*	*	120.8	9.1	*	*	*
AH-I	138.5	*	*	7.9	*	*	*	*	*	3.0	11.8	96.0	17.6	2.2	*	*
Hydromesic north	936.8	2.5	7.4	2.0	13.0	4.9	*	3.9	*	29.1	114.7	367.3	344.9	37.5	2.8	6.8
5. North wet-mesic	2,213.4	11.3	28.6	29.7	87.6	17.7	3.8	10.8	2.1	55.4	199.0	1,011.6	655.0	89.0	2.8	9.0
Lowland north	2,040.1	9.4	0.3	6.0	144.5	9.9	318.1	287.8	247.3	13.9	574.4	168.7	176.7	37.4	14.7	31.0
6. North wet	2,040.1	9.4	0.3	6.0	144.5	9.9	318.1	287.8	247.3	13.9	574.4	168.7	176.7	37.4	14.7	31.0
AbArSn	222.1	*	4.2	*	15.0	7.1	*	*	*	*	7.0	11.3	148.6	18.5	6.6	3.8
AbASnMi	117.0	*	3.1	*	3.7	*	*	*	*	*	14.1	41.5	41.4	13.2	*	*
7. North boreal	339.1	*	7.3	*	18.7	7.1	*	*	*	*	21.1	52.8	190.0	31.7	6.6	3.8

(Table 74 continued on next page)

(Table 74 continued)

Habitat type group/ Habitat type	Total	Forest Type: Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-beech-birch	Aspen	Paper birch	Balsam poplar	Non-stocked
									(Thousand acres)							
PVGy	197.2	25.7	24.7	8.4	*	*	*	*	*	101.1	4.3	11.9	21.1	*	*	*
PEu	235.0	47.3	50.2	1.4	*	*	*	*	*	133.1	*	*	3.0	*	*	*
PVHa	108.1	2.1	0.5	0.6	*	*	*	*	*	38.7	12.0	26.6	24.9	2.7	*	*
PVCr	101.7	26.7	15.5	*	*	*	*	*	*	49.1	*	8.8	1.6	*	*	*
PVG	190.7	14.6	13.7	3.8	*	*	*	*	*	86.3	12.6	26.0	28.4	3.9	*	1.4
PVRh	334.8	19.3	6.7	12.0	*	*	*	*	*	88.8	32.8	77.5	90.2	6.4	*	1.1
8. South dry	1,167.5	135.7	111.3	26.2	*	*	*	*	*	497.1	61.7	150.8	169.2	13.0	*	2.5
ArDe-V	139.7	*	1.5	3.6	*	*	*	*	*	102.9	0.2	16.4	6.7	6.7	*	1.7
ArDe	177.6	4.8	18.2	6.8	*	*	*	*	*	119.5	3.1	15.0	10.2	*	*	*
AQVb-Gr	56.1	*	*	3.5	*	*	*	*	*	19.1	2.9	29.4	1.2	*	*	*
ArCi	71.6	*	3.2	*	*	1.5	*	*	*	38.3	0.2	17.5	8.5	2.4	*	*
ArCi-Ph	542.5	*	4.1	11.0	*	*	*	*	*	306.7	32.8	137.6	23.1	25.1	*	2.1
AArVb	44.0	*	*	*	*	*	*	*	*	25.0	*	7.5	11.5	*	*	*
AArL	4.8	*	*	*	*	*	*	*	*	4.8	*	*	*	*	*	*
9. South dry-mesic 1	1,036.3	4.8	27.0	24.9	*	1.5	*	*	*	616.3	39.2	223.4	61.2	34.2	*	3.8
ATiDe-Ha	17.1	*	*	*	*	*	*	*	*	13.4	*	3.7	*	*	*	*
ATiDe-As	17.2	*	*	*	*	*	*	*	*	12.1	*	4.2	0.9	*	*	*
ATiDe	181.8	*	*	*	*	*	*	*	*	98.1	3.0	70.4	6.2	4.1	*	*
ATiFrCi	22.4	*	*	0.6	*	*	*	*	*	13.3	0.4	8.1	*	*	*	*
ATiFrVb	89.8	*	*	0.6	*	*	*	*	*	40.9	5.3	38.5	4.5	*	*	*
AFrDe	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AFrDeO	15.8	*	0.2	0.3	*	*	*	*	*	10.2	*	5.1	*	*	*	*
10. South dry-mesic 2	344.1	*	0.2	1.5	*	*	*	*	*	188.0	8.7	130.0	11.6	4.1	*	*
ATiDe(Pr)	92.4	*	*	*	*	*	*	*	*	58.3	8.8	11.5	8.5	5.3	*	*
ATiCr(O)	207.8	*	*	*	*	*	*	*	*	135.3	9.5	54.0	6.6	2.4	*	*
ATiCr(As)	43.7	*	*	*	*	*	*	*	*	21.2	*	16.4	*	6.1	*	*
ATiFrVb (Cr)	85.6	*	5.3	*	*	*	*	*	*	37.9	3.5	27.8	11.1	*	*	*
AFrDe(Vb)	7.4	*	*	3.4	*	*	*	*	*	2.0	*	2.0	*	*	*	*
11. South dry-mesic 3	436.9	*	5.3	3.4	*	*	*	*	*	254.7	21.8	111.7	26.2	13.8	*	*

(Table 74 continued on next page)

(Table 74 continued)

Habitat type group/ Habitat type	Total	Forest Type														
		Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tama-rack	Oak-hickory	Elm-ash-soft maple	Maple-beech-birch	Aspen	Paper birch	Balsam poplar	Non-stocked
									(Thousand acres)							
ATTr	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AFTD	5.2	*	*	*	*	*	*	*	*	*	*	5.2	*	*	*	*
ATiSa-De	319.5	*	0.1	*	*	*	*	*	*	128.9	23.0	128.0	28.0	10.7	*	0.8
ATiSa	45.6	*	*	*	*	*	*	*	*	29.5	*	16.1	*	*	*	*
ATiFrCa	24.4	*	*	*	*	*	*	*	*	5.9	0.2	18.3	*	*	*	*
ATiCa-La	61.3	*	*	*	*	*	*	*	*	6.6	9.1	41.4	3.4	0.8	*	*
ATiCa	183.9	3.5	*	5.1	*	*	*	*	*	49.4	2.7	119.8	*	3.4	*	*
ATiCa-Al	7.7	*	*	*	*	*	*	*	*	2.4	*	5.3	*	*	*	*
ATiH	79.4	*	*	*	*	*	*	*	*	40.3	*	39.1	*	*	*	*
AFH	49.2	*	*	*	*	*	*	*	*	1.6	5.6	36.0	6.0	*	*	*
AFAs	44.4	*	*	*	*	*	*	*	*	4.2	*	40.2	*	*	*	*
AFAs-O	10.6	*	*	*	*	*	*	*	*	*	*	10.6	*	*	*	*
12. South mesic 1	831.2	3.5	0.1	5.1	*	*	*	*	*	268.8	40.6	460.0	37.4	14.9	*	0.8
ATiAs(De)	17.3	*	*	*	*	*	*	*	*	5.8	*	11.5	*	*	*	*
ATiFrCa (O)	57.6	*	8.1	*	*	*	*	*	*	32.9	2.5	14.1	*	*	*	*
13. South mesic 2	74.9	*	8.1	*	*	*	*	*	*	38.7	2.5	25.6	*	*	*	*
Hydromesic south	120.2	*	*	*	*	*	*	*	*	12.1	42.1	57.6	5.0	*	3.4	*
14. South Wet-Mesic	120.2	*	*	*	*	*	*	*	*	12.1	42.1	57.6	5.0	*	3.4	*
Lowland south	629.4	2.8	*	9.9	*	1.0	3.1	14.8	48.8	69.9	395.9	50.8	8.8	17.8	*	5.8
15. South wet	629.4	2.8	*	9.9	*	1.0	3.1	14.8	48.8	69.9	395.9	50.8	8.8	17.8	*	5.8
16. No type identified	1,845.8	47.7	167.0	26.9	46.9	25.4	7.3	22.3	3.7	258.4	126.5	596.6	378.8	79.8	*	58.5
Total	15,964.8	391.9	605.3	202.6	313.3	84.4	332.3	335.7	301.9	2,928.2	1,559.4	5,348.7	2,909.6	502.8	29.1	119.6

Table 75.--Net growing-stock volume on timberland by habitat type group/habitat type and species group, Wisconsin, 1996

Habitat type group/ Habitat type	Total	Species Group: Jack pine	Red pine	White pine	White spruce	Black spruce	Balsam fir	Hemlock	Tamarack	Northern white-cedar	Other softwoods	Select white oak	Select red oak	Other red oak	Select hickory	Other hickory	Basswood
								(Thousand cubic feet)									
QAc	39,876	22,950	15,126	*	*	*	*	*	*	*	*	*	558	392	*	*	*
ArQTr	25,074	8,353	10,307	62	*	*	*	*	*	*	*	*	1,355	3,292	*	*	*
QArE	2,502	2,502	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
QGCe	120,950	38,434	26,687	1,235	*	*	*	*	*	*	*	2,828	21,950	12,660	*	*	*
ArQV	174,887	29,296	53,193	20,377	1,614	890	471	*	*	*	261	*	11,713	3,057	*	*	*
ArQV-Sm	165,043	11,866	59,418	6,413	2,917	*	601	*	758	*	*	*	31,555	453	*	*	*
QV	104,295	17,111	28,412	5,620	*	*	484	*	*	*	*	896	1,894	37,279	*	*	*
QAp	42,038	26,384	*	*	*	*	*	*	*	*	*	2,243	2,140	10,904	*	*	*
1. North very dry to dry	674,665	156,896	193,143	33,707	4,531	890	1,556	*	758	*	261	5,967	71,165	68,037	*	*	*
PAm	193,446	13,715	27,430	15,142	245	*	1,337	*	168	*	*	14,770	34,213	9,429	*	*	586
PAm-At	3,501	*	264	563	*	*	*	*	*	*	*	520	251	*	*	*	*
PMV	438,055	13,905	78,477	60,605	9,947	884	9,003	394	*	*	*	237	41,733	1,642	*	*	*
PMV-Q	38,334	9,759	6,410	4,171	*	*	*	*	*	*	*	194	465	9,171	*	*	*
PMV-Vb	160,084	1,220	37,092	16,179	1,426	*	3,742	962	*	1,632	*	1,259	10,172	6,645	*	*	273
PMV-Po	100,618	5,969	16,091	12,402	333	*	1,193	*	*	*	*	*	19,877	1,952	*	*	*
2. North dry to dry-mesic	934,038	44,568	165,764	109,062	11,951	884	15,275	1,356	168	1,632	*	16,980	106,711	28,839	*	*	859
FArAa	6,032	*	90	129	*	*	*	*	*	57	*	252	984	1,157	*	*	*
AVVb	275,834	*	13,165	22,050	1,175	221	10,145	*	*	*	2,363	261	60,752	770	*	*	3,696
AVDe	212,590	1,038	6,980	13,759	255	*	1,584	*	*	*	*	21,623	66,723	*	*	449	7,558
ACl-V	61,163	*	4,717	1,687	2,361	*	3,021	*	*	*	*	*	1,769	301	*	*	2,225
ACl	37,518	*	*	373	*	308	2,650	*	*	*	*	188	7,362	*	*	*	1,105
AQVb-V	93,358	*	5,171	1,970	*	*	466	*	*	*	*	9,320	26,306	*	*	1,256	7,843
AQVb	213,368	2,252	15,813	10,453	1,341	*	3,081	613	*	976	*	3,310	47,065	2,629	*	753	6,350
AQVb-Ha	117,466	*	6,163	11,928	1,080	*	2,174	456	*	208	*	2,715	30,721	*	*	*	7,970
AAt	328,496	296	10,459	13,020	*	*	434	*	339	*	1,836	29,460	91,436	3,883	*	2,071	20,664
AFTPo	9,738	*	*	369	*	*	*	*	*	2,111	*	*	*	*	*	*	319
AVb	29,756	*	*	262	*	*	*	*	*	*	*	3,009	8,685	*	*	*	1,102
AFVb	157,662	*	2,099	20,887	381	*	2,173	1,524	*	*	*	2,158	31,401	*	*	922	13,273
3. North dry-mesic to mesic	1,542,981	3,586	64,657	96,887	6,593	529	25,728	2,593	339	3,352	4,199	72,296	373,204	8,740	*	5,451	72,105
ATM	1,176,563	811	29,059	63,437	24,891	439	33,069	51,499	418	3,674	445	4,794	91,386	*	*	636	93,905
AFSt	11,512	*	*	*	*	*	*	1,986	*	*	*	*	1,488	*	*	*	*
AAs	29,036	*	*	628	*	*	2,601	*	*	*	*	490	5,519	*	*	*	2,599
ATFD	125,723	*	*	6,145	*	*	357	19,984	1,158	*	*	*	4,259	*	*	*	11,891
ATD	375,242	*	985	586	1,264	*	3,273	29,824	*	2,014	*	*	11,083	*	*	*	46,238
ATDH	114,561	*	4,976	4,325	*	*	1,074	15,392	*	76	*	*	9,893	*	*	*	21,970
ACaCi	230,501	*	4,651	9,395	*	*	*	*	*	*	449	22,232	52,539	4,269	*	3,189	25,457
ACaCi-H	113,806	*	1,145	3,692	*	*	1,211	*	*	*	*	3,975	12,692	*	*	6,920	17,716
AFAl	32,672	*	*	344	*	*	*	339	*	*	*	*	1,574	*	*	*	2,823
AFAd	85,455	*	*	880	*	*	*	10,352	*	1,162	*	*	11,292	*	*	2,577	12,662

4. North mesic - continued on next page

(Table 75 continued on next page)

(Table 75 continued)

Habitat type group/ Habitat type	Total	Species Group: Jack pine	Red pine	White pine	White spruce	Black spruce	Balsam fir	Hemlock	Tamarack	Northern white-cedar	Other softwoods	Select white oak	Select red oak	Other red oak	Select hickory	Other hickory	Basswood
									(Thousand cubic feet)								
4. North mesic - continued from previous page																	
AViO	785,959	*	7,867	1,548	10,495	167	8,089	29,503	*	1,709	*	407	18,089	*	*	*	172,690
AViO-Ca	49,063	*	*	*	*	*	206	1,238	*	123	*	*	170	*	*	*	10,177
AHVb	27,441	736	*	*	*	*	*	*	*	*	*	966	8,621	*	*	180	2,170
AH-Ci	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AH	617,964	*	*	133	2,131	*	2,260	21,630	194	277	*	6,953	40,550	*	*	7,269	138,742
4. North mesic	3,775,498	1,547	48,683	91,113	38,781	606	52,140	181,747	1,770	9,035	894	39,817	269,155	4,269	*	20,771	559,040
ArCo	34,445	*	4,114	213	789	1,315	5,895	*	673	*	*	*	799	*	*	*	*
TMC-V	266,665	1,335	23,299	44,913	24,334	11,040	26,494	5,264	870	3,948	*	*	3,431	890	*	*	*
TMC	558,740	4,645	28,007	55,163	19,932	4,796	58,778	60,203	1,539	24,300	*	1,577	5,514	888	*	*	2,005
TMC-D	108,986	*	*	2,793	9,825	*	5,128	12,672	*	8,189	*	*	841	118	*	*	734
ATM-As	140,608	*	204	5,773	1,488	*	2,099	5,506	*	*	*	880	7,179	355	*	*	14,990
ATD-I	79,036	*	*	*	*	*	1,121	8,216	*	113	*	*	1,319	*	*	*	12,431
ACaCi-I	107,273	*	*	2,751	*	*	253	*	*	*	*	16,831	24,659	743	*	306	9,938
AViO-I	219,821	*	526	677	2,493	*	1,722	10,232	*	1,914	*	198	1,884	*	*	*	30,910
AH-I	192,529	*	455	39,107	*	*	2,244	627	*	*	*	5,994	7,574	*	*	2,933	18,242
Hydromesic North	1,036,642	6,163	12,255	25,036	27,486	2,644	50,507	20,847	5,588	22,950	*	16,392	29,957	1,523	*	3,692	46,157
5. North wet-mesic	2,744,745	12,143	68,860	176,426	86,347	19,795	154,241	123,567	8,670	61,414	*	41,872	83,157	4,517	*	6,931	135,407
Lowland North	1,717,354	6,209	4,340	51,693	28,596	119,601	120,153	39,116	210,524	422,878	964	10,408	8,371	3,697	*	191	15,366
6. North wet	1,717,354	6,209	4,340	51,693	28,596	119,601	120,153	39,116	210,524	422,878	964	10,408	8,371	3,697	*	191	15,366
AbArSn	203,397	*	6,822	10,858	10,079	2,218	27,567	*	*	1,625	*	1,367	543	*	*	*	1,710
AbASnMi	167,750	*	7,245	8,001	5,011	*	19,175	*	*	1,688	*	389	8,754	2,258	*	*	4,107
7. North boreal	371,147	*	14,067	18,859	15,090	2,218	46,742	*	*	3,313	*	1,756	9,297	2,258	*	*	5,817
PVGy	141,097	23,535	17,099	16,143	*	*	*	*	*	*	*	5,474	26,520	32,199	*	*	*
PEu	179,483	28,592	57,692	14,539	*	*	*	*	*	*	135	7,984	3,080	63,206	*	*	*
PVHa	114,803	677	3,637	11,515	*	*	*	*	*	*	*	17,289	14,209	18,656	*	*	*
PVCr	89,168	13,769	24,448	1,704	*	*	*	*	*	*	*	7,972	9,881	23,363	175	*	*
PVG	191,000	17,476	12,567	29,186	*	*	*	*	1,032	*	177	19,371	8,264	65,856	*	*	*
PVRh	293,063	21,103	13,822	47,387	*	*	*	*	*	*	*	10,997	20,359	53,673	*	*	*
8. South dry	1,008,614	105,152	129,265	120,474	*	*	*	*	1,032	*	312	69,087	82,313	256,953	175	*	*
ArDe-V	167,877	1,006	2,874	5,630	*	*	*	*	*	*	182	28,842	35,450	38,012	975	*	358
ArDe	209,311	6,266	20,385	21,948	449	*	*	191	*	*	2,541	34,711	19,089	64,799	587	*	*
AQVb-Gr	107,919	*	2,281	23,457	*	*	1,594	*	*	180	*	20,398	19,916	1,540	*	*	257
ArCi	85,356	*	10,652	3,054	2,186	*	*	*	*	*	179	13,511	22,709	13,090	699	*	*
ArCi-Ph	641,552	1,524	2,421	28,739	246	415	177	*	*	*	*	96,175	150,820	41,451	26,754	5,983	24,338
AArVb	46,376	*	*	*	*	*	*	*	*	*	*	12,198	18,180	3,475	*	163	260
AArL	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
9. South dry-mesic 1	1,258,391	8,796	38,613	82,828	2,881	415	1,771	191	*	180	2,902	205,835	266,164	162,367	29,015	6,146	25,213

(Table 75 continued on next page)

(Table 75 continued)

Habitat type group/ Habitat type	Total	Species Group: Jack pine	Red pine	White pine	White spruce	Black spruce	Balsam fir	Hemlock	Tamarack	Northern white-cedar	Other softwoods	Select white oak	Select red oak	Other red oak	Select hickory	Other hickory	Basswood
								(Thousand cubic feet)									
ATiDe-Ha	36,517	*	*	*	*	*	*	*	*	*	*	9,733	10,544	293	*	1,093	789
ATiDe-As	22,727	*	*	*	*	*	*	*	*	*	*	254	7,871	*	1,496	343	543
ATiDe	188,477	*	*	*	*	*	*	*	*	*	559	39,152	44,888	6,781	11,624	5,319	12,225
ATiFrCi	27,400	*	*	*	*	*	*	*	*	*	294	6,178	1,723	2,377	1,874	*	4,693
ATiFrVb	127,091	*	*	354	*	*	*	*	*	*	*	32,531	13,085	7,532	9,372	1,441	8,885
AFrDe	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AFrDeO	27,568	*	604	*	*	*	*	*	*	*	*	1,934	7,404	304	1,599	*	437
10. South dry-mesic 2	429,780	*	604	354	*	*	*	*	*	*	853	89,782	85,515	17,287	25,965	8,196	27,572
ATiDe(Pr)	87,178	201	*	523	*	*	*	*	*	*	691	25,996	19,082	2,777	7,762	1,985	1,346
ATiCr(O)	218,227	*	*	2,968	*	*	*	*	*	*	470	43,278	40,099	13,349	11,642	2,926	4,076
ATiCr(As)	66,502	*	*	*	*	*	*	*	*	*	*	18,872	7,393	6,550	286	447	10,993
ATiFrVb(Cr)	69,171	*	8,821	*	*	*	*	*	*	*	1,776	17,355	3,374	10,653	5,871	477	1,316
AFrDe(Vb)	4,595	*	1,659	1,652	*	*	*	*	*	*	*	*	493	*	*	*	*
11. South dry-mesic 3	445,673	201	10,480	5,143	*	*	*	*	*	*	2,937	105,501	70,441	33,329	25,561	5,835	17,731
ATTr	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AFTD	12,114	*	*	*	*	*	*	643	*	1,937	*	*	*	*	*	*	*
ATiSa-De	374,703	*	*	5,247	*	*	*	*	*	*	445	49,639	75,625	11,791	10,423	5,532	43,892
ATiSa	69,518	*	*	*	*	*	*	*	*	*	*	8,497	16,974	*	3,832	1,871	3,870
ATiFrCa	45,401	*	*	*	*	*	*	*	*	*	*	3,495	8,618	567	2,622	758	12,463
ATiCa-La	83,450	*	*	13,186	*	*	*	*	*	*	*	4,701	11,270	1,152	*	655	9,960
ATiCa	242,505	*	*	5,588	*	*	*	*	*	*	453	22,840	42,810	*	7,948	12,430	34,317
ATiCa-Al	4,832	*	*	*	*	*	*	*	*	*	*	*	544	*	272	151	1,228
ATiH	96,768	*	*	4,320	*	*	*	*	*	*	254	16,726	18,635	1,567	1,103	2,021	13,195
AFH	86,594	*	*	8,663	*	*	*	*	*	*	*	6,153	6,219	*	330	*	6,214
AFAs	83,128	*	*	791	*	*	*	*	*	*	*	3,441	8,508	*	962	628	8,246
AFAs-O	16,040	*	*	*	*	*	*	278	*	*	*	*	*	*	*	708	1,801
12. South mesic 1	1,115,053	*	*	37,795	*	*	*	921	*	1,937	1,152	115,492	189,203	15,077	27,492	24,754	135,186
ATiAs(De)	11,919	*	*	222	*	*	*	*	*	*	*	4,947	1,451	869	876	*	164
ATiFrCa(O)	80,850	*	24,375	*	*	*	*	*	*	*	734	13,489	13,423	5,800	3,475	*	1,057
13. South mesic 2	92,769	*	24,375	222	*	*	*	*	*	*	734	18,436	14,874	6,669	4,351	*	1,221
Hydromesic South	123,224	236	180	2,886	*	*	857	*	1,432	2,206	*	10,598	206	8,172	189	186	12,752
14. South wet-mesic	123,224	236	180	2,886	*	*	857	*	1,432	2,206	*	10,598	206	8,172	189	186	12,752
Lowland South	568,250	4,165	407	23,070	*	3,587	1,071	644	32,896	33,481	280	37,204	5,641	10,645	1,775	4,950	16,855
15. South wet	568,250	4,165	407	23,070	*	3,587	1,071	644	32,896	33,481	280	37,204	5,641	10,645	1,775	4,950	16,855
16. No type identified	1,670,973	38,416	224,383	78,130	42,931	7,461	51,202	50,765	7,416	29,274	4,605	85,726	94,109	29,019	16,392	4,693	67,295
Total	18,473,155	381,915	987,821	928,649	237,701	155,986	470,736	400,900	265,005	568,702	20,093	926,757	1,729,526	659,875	130,915	88,104	1,092,419

(Table 75 continued)

Habitat type group/ Habitat type	Species Group																
	Beech	Yellow birch	Hard maple	Soft maple	Elm	Black ash	White & green ash	Cotton-wood	Willow	Balsam poplar	Bigtooth aspen	Quaking aspen	Paper birch	Black cherry	Black Walnut	Butter-nut	Other hardwoods
	(Thousand cubic feet)																
QAc	*	*	*	*	*	*	*	*	*	*	*	850	*	*	*	*	*
ArQTr	*	*	*	*	*	*	*	*	*	*	1,410	295	*	*	*	*	*
QArE	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
QGCe	*	*	*	*	*	*	*	*	*	*	6,014	10,063	1,079	*	*	*	*
ArQV	*	*	*	5,021	*	*	*	*	*	217	20,629	20,951	6,777	420	*	*	*
ArQV-Sm	*	*	*	2,821	*	*	*	*	*	194	28,081	10,519	9,447	*	*	*	*
QV	*	*	*	3,598	*	*	*	*	*	*	1,090	6,836	1,075	*	*	*	*
QAp	*	*	*	*	*	*	*	*	*	*	367	*	*	*	*	*	*
1. North very dry to dry	*	*	*	11,440	*	*	*	*	*	411	57,591	49,514	18,378	420	*	*	*
PAm	*	*	2,419	13,158	*	*	*	*	*	249	22,649	33,396	4,540	*	*	*	*
PAm-At	*	*	*	263	*	*	*	*	*	*	*	1,012	628	*	*	*	*
PMV	*	669	9,870	45,253	*	*	664	*	*	*	38,990	59,928	65,854	*	*	*	*
PMV-Q	*	*	*	1,800	*	*	*	*	*	*	674	5,690	*	*	*	*	*
PMV-Vb	248	155	261	23,936	*	599	190	*	*	872	14,099	28,227	10,410	485	*	*	*
PMV-Po	*	*	5,047	5,946	*	*	*	*	*	*	13,284	10,703	7,821	*	*	*	*
2. North dry to dry-mesic	248	824	17,597	90,356	*	599	854	*	*	1,121	89,696	138,956	89,253	485	*	*	*
FArAa	*	*	*	1,584	*	*	*	*	*	*	681	917	181	*	*	*	*
AVVb	149	*	25,701	27,724	*	697	726	*	*	*	30,145	35,626	40,216	252	*	*	*
AVDe	*	201	7,221	33,056	151	1,783	1,976	128	*	*	25,540	12,058	10,247	*	260	*	*
ACl-V	*	*	2,851	11,781	*	419	*	*	*	*	226	9,626	20,179	*	*	*	*
ACl	*	950	14,523	4,800	*	305	*	*	*	*	1,381	229	3,344	*	*	*	*
AQVb-V	*	268	3,439	14,275	300	*	2,564	*	*	*	10,276	5,215	4,689	*	*	*	*
AQVb	169	450	11,171	46,226	215	*	5,445	*	*	*	21,461	12,088	20,278	*	*	1,229	*
AQVb-Ha	453	245	4,895	13,488	255	*	1,788	*	*	274	7,449	18,787	6,195	222	*	*	*
AAt	*	1,310	29,651	35,350	700	1,222	8,007	*	*	*	25,545	38,323	12,914	906	*	536	134
AFTPo	266	*	3,781	*	*	*	*	*	*	*	*	124	2,768	*	*	*	*
AVb	*	*	3,319	3,860	143	892	1,989	*	*	*	648	4,777	1,070	*	*	*	*
AFVb	1,790	-	25,485	19,604	*	*	2,800	*	*	489	11,861	13,844	5,755	*	*	1,216	*
3. North dry-mesic to mesic	2,827	3,424	132,037	211,748	1,764	5,318	25,295	128	*	763	135,213	151,614	127,836	1,380	260	2,981	134
ATM	236	30,975	286,793	154,087	1,665	13,111	23,603	*	*	2,242	46,579	131,510	80,459	6,840	*	*	*
AFSt	*	*	*	353	*	*	*	*	*	*	2,662	*	5,023	*	*	*	*
AAs	*	722	6,574	1,875	321	2,278	207	*	*	*	*	3,272	1,950	*	*	*	*
ATFD	13,209	6,765	21,429	12,879	179	*	778	*	*	*	10,563	8,470	7,441	216	*	*	*
ATD	337	27,546	183,482	26,924	2,842	919	6,332	*	*	*	752	11,475	11,572	7,615	179	*	*
ATDH	1,034	5,595	31,045	704	423	169	6,118	*	*	407	381	6,519	4,113	347	*	*	*
ACaCi	*	1,090	24,861	14,527	1,827	5,280	8,866	*	*	*	17,277	15,138	16,833	1,535	*	1,086	*
ACaCi-H	*	936	29,911	7,403	734	2,699	7,736	*	*	*	309	10,792	3,640	*	505	1,790	*
AFAl	2,598	*	16,972	*	*	*	1,753	*	*	227	1,738	583	3,475	246	*	*	*
AFAd	7,199	557	28,824	646	387	*	3,060	*	*	*	*	3,838	949	*	*	1,070	*

4. North mesic - continued on next page

(Table 75 continued on next page)

(Table 75 continued)

Habitat type group/ Habitat type	Species Group																
	Beech	Yellow birch	Hard maple	Soft maple	Elm	Black ash	White & green ash	Cotton-wood	Willow	Balsam poplar	Bigtooth aspen	Quaking aspen	Paper birch	Black cherry	Black Walnut	Butter-nut	Other hardwoods
	(Thousand cubic feet)																
4. North mesic - continued from previous page																	
AViO	1,011	18,370	344,561	34,330	4,112	5,688	24,240	*	*	2,877	2,415	64,027	19,020	14,359	*	385	*
AViO-Ca	*	683	30,658	1,980	423	790	186	*	*	*	*	1,615	814	*	*	*	*
AHVb	*	*	3,275	4,624	*	*	2,805	*	*	*	2,979	903	*	*	*	182	*
AH-Ci	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AH	*	16,533	269,452	23,240	8,813	3,334	31,912	*	*	1,863	5,807	22,742	5,325	8,189	*	615	*
4. North mesic	25,624	109,772	1,277,837	283,572	21,726	34,268	117,596	*	*	7,616	91,462	280,884	160,614	39,347	684	5,128	*
ArCo	*	*	*	2,179	*	183	*	*	*	*	242	16,184	1,708	151	*	*	*
TMC-V	*	409	3,016	30,570	168	143	*	*	*	110	6,279	50,666	29,404	82	*	*	*
TMC	535	19,457	29,957	97,549	987	13,079	404	*	*	245	12,944	64,845	50,097	1,294	*	*	*
TMC-D	*	8,637	10,538	32,342	*	1,930	1,094	*	*	*	1,454	8,925	3,250	516	*	*	*
ATM-As	*	6,232	8,417	52,660	2,556	2,380	4,318	*	*	*	1,238	22,967	1,054	*	312	*	*
ATD-I	*	2,995	33,067	10,728	*	2,264	3,645	*	*	*	*	2,876	261	*	*	*	*
ACaCi-I	*	258	6,103	6,183	1,953	6,102	7,582	*	*	*	5,904	15,372	1,424	684	*	227	*
AViO-I	*	9,936	104,094	21,277	1,736	7,392	11,080	*	*	*	*	10,965	2,201	584	*	*	*
AH-I	*	1,926	45,588	22,220	3,710	6,034	8,846	*	*	*	*	25,095	-	650	*	1,284	*
Hydromesic North	*	32,323	76,268	244,857	8,523	53,210	36,065	*	*	3,616	21,901	250,316	33,699	4,491	*	*	176
5. North wet-mesic	535	82,173	317,048	520,565	19,633	92,717	73,034	*	*	3,971	49,962	468,211	123,098	8,452	312	1,511	176
Lowland North	*	30,288	7,219	124,949	22,697	217,774	62,121	3,298	1,003	17,696	2,739	131,477	49,403	3,182	328	903	170
6. North wet	*	30,288	7,219	124,949	22,697	217,774	62,121	3,298	1,003	17,696	2,739	131,477	49,403	3,182	328	903	170
AbArSn	*	*	2,471	8,450	1,257	4,203	1,459	*	*	4,096	7,469	89,975	21,228	*	*	*	*
AbASnMi	*	*	11,632	20,950	213	6,670	4,877	*	*	3,420	4,212	48,200	10,083	*	*	*	865
7. North boreal	*	*	14,103	29,400	1,470	10,873	6,336	*	*	7,516	11,681	138,175	31,311	*	*	*	865
PVGy	*	*	*	4,011	*	*	*	*	*	*	10,840	3,889	1,387	*	*	*	*
PEu	*	*	*	353	*	*	*	*	*	*	1,911	827	*	1,164	*	*	*
PVHa	*	*	287	20,384	*	200	*	*	*	*	13,513	11,559	2,877	*	*	*	*
PVCr	*	*	*	2,017	235	*	2,010	190	*	*	2,585	494	*	180	*	*	145
PVG	*	*	*	13,414	410	*	953	*	190	*	4,479	13,735	2,074	1,532	*	*	284
PVRh	*	*	*	57,861	286	*	*	*	*	*	20,105	39,254	7,180	818	*	*	218
8. South dry	*	*	287	98,040	931	200	2,963	190	190	*	53,433	69,758	13,518	3,694	*	*	647
ArDe-V	*	199	984	17,390	547	300	*	*	*	*	25,372	3,640	3,637	2,271	*	*	208
ArDe	*	*	176	8,359	95	*	*	3,867	*	*	9,221	7,545	836	4,084	317	*	3,845
AQVb-Gr	*	*	579	24,713	*	*	578	*	*	*	8,334	2,472	1,405	215	*	*	*
ArCi	*	*	*	6,610	353	*	1,041	*	*	*	2,933	2,433	3,358	1,571	*	*	977
ArCi-Ph	*	264	2,288	44,347	21,071	872	4,403	4,988	*	220	62,633	15,268	51,322	27,904	5,685	3,443	17,801
AArVb	*	*	636	5,843	585	*	1,348	*	*	*	732	532	1,404	295	*	*	725
AArL	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
9. South dry-mesic 1	*	463	4,663	107,262	22,651	1,172	7,370	8,855	*	220	109,225	31,890	61,962	36,340	6,002	3,443	23,556

(Table 75 continued on next page)

(Table 75 continued)

Habitat type group/ Habitat type	Species Group																
	Beech	Yellow birch	Hard maple	Soft maple	Elm	Black ash	White & green ash	Cotton-wood	Willow	Balsam poplar	Bigtooth aspen	Quaking aspen	Paper birch	Black cherry	Black Walnut	Butter-nut	Other hardwoods
	(Thousand cubic feet)																
ATiDe-Ha	*	*	3,004	4,159	156	*	1,167	*	*	*	3,326	*	1,089	1,164	*	*	*
ATiDe-As	*	*	290	3,060	868	*	1,568	*	*	*	2,749	*	*	3,685	*	*	*
ATiDe	*	*	12,063	4,371	10,660	*	3,639	1,553	*	*	18,194	4,548	3,420	3,343	3,098	1,705	1,335
ATiFrCi	*	*	3,432	3,117	*	*	813	*	*	*	994	*	*	1,402	*	321	182
ATiFrVb	*	*	2,580	6,427	5,640	583	10,594	*	3,251	*	6,297	1,842	741	13,821	669	*	1,446
AFrDe	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AFrDeO	*	*	6,075	3,104	*	*	1,688	*	*	*	1,328	928	2,163	*	*	*	*
10. South dry-mesic 2	*	*	27,444	24,238	17,324	583	19,469	1,553	3,251	*	32,888	7,318	7,413	23,415	3,767	2,026	2,963
ATiDe(Pr)	*	*	*	3,405	4,298	*	982	2,615	*	*	4,183	2,172	4,775	3,199	*	*	1,186
ATiCr(O)	*	*	4,467	4,126	28,136	*	3,341	2,378	*	*	20,225	6,170	3,192	10,261	13,391	*	3,732
ATiCr(As)	*	697	3,644	826	5,767	*	*	941	*	*	3,085	811	1,946	1,722	*	*	2,522
ATiFrVb(Cr)	*	*	*	1,026	1,720	*	3,585	294	*	*	487	2,559	*	7,494	199	*	2,164
AFrDe(Vb)	*	*	*	*	*	*	791	*	*	*	*	*	*	*	*	*	*
11. South dry-mesic 3	*	697	8,111	9,383	39,921	*	8,699	6,228	*	*	27,980	11,712	9,913	22,676	13,590	*	9,604
ATTr	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AFTD	*	*	246	737	*	*	4,256	*	*	*	987	1,314	1,561	433	*	*	*
ATiSa-De	*	1,492	24,796	10,911	15,175	1,859	12,457	1,676	*	804	27,010	25,713	18,614	17,146	581	4,912	8,963
ATiSa	*	*	18,731	4,289	*	*	5,010	*	*	*	4,150	*	2,294	*	*	*	*
ATiFrCa	*	*	5,999	1,696	1,849	*	3,496	*	*	*	1,574	*	*	1,915	349	*	*
ATiCa-La	*	743	15,893	1,838	4,577	4,376	3,393	2,378	*	*	1,226	2,777	1,024	1,252	*	984	2,065
ATiCa	*	*	50,584	9,315	12,183	251	12,209	287	810	*	12,871	1,760	6,899	5,153	401	2,184	1,212
ATiCa-Al	*	*	1,134	*	594	*	909	*	*	*	*	*	*	*	*	*	*
ATiH	*	*	12,931	*	10,713	268	5,370	*	*	*	982	431	394	1,797	5,812	249	*
AFH	1,651	893	8,351	20,900	738	887	11,046	*	*	488	5,090	7,506	495	970	*	*	*
AFAs	11,396	*	24,943	2,047	3,763	216	15,758	*	*	*	*	*	*	2,271	*	*	158
AFAs-O	*	*	7,776	654	482	*	1,933	*	*	*	486	717	*	235	*	970	*
12. South mesic 1	13,047	3,128	171,384	52,387	50,074	7,857	75,837	4,341	810	1,292	54,376	40,218	31,281	31,172	7,143	9,299	12,398
ATiAs(De)	*	*	*	*	2,468	*	*	*	*	*	448	*	*	*	*	*	474
ATiFrCa(O)	*	*	*	842	4,566	*	956	*	*	*	395	804	*	8,949	1,072	*	913
13. South mesic 2	*	*	*	842	7,034	*	956	*	*	*	843	804	*	8,949	1,072	*	1,387
Hydromesic South	*	554	1,982	25,312	8,052	8,371	11,711	3,786	*	3,788	1,499	9,161	1,318	2,058	1,251	*	4,481
14. South wet-mesic	*	554	1,982	25,312	8,052	8,371	11,711	3,786	*	3,788	1,499	9,161	1,318	2,058	1,251	*	4,481
Lowland South	*	5,294	*	156,900	24,647	41,808	80,533	12,224	12,931	243	1,498	10,486	15,068	5,329	1,626	107	22,885
15. South wet	*	5,294	*	156,900	24,647	41,808	80,533	12,224	12,931	243	1,498	10,486	15,068	5,329	1,626	107	22,885
16. No type identified	6,187	23,955	175,301	159,479	30,908	35,559	39,153	9,012	3,344	5,039	37,072	184,582	91,954	13,591	12,312	2,872	8,836
Total	48,468	260,572	2,155,013	1,905,873	268,832	457,099	531,927	49,615	21,529	49,676	757,158	1,724,760	832,320	200,490	48,347	28,270	88,102

* U.S. GOVERNMENT PRINTING OFFICE: 1997-557-307

Schmidt, Thomas L.
1997. **Wisconsin forest statistics, 1996.** Resour. Bull. NC-183. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station. 151 p.

The fifth inventory of Wisconsin's forests reports 34.8 million acres of land, of which 16.0 million acres are forested. This bulletin contains detailed tables of area, volume, growth, removals, mortality, and ownership.

KEY WORDS: Forest area, timber volume, growth, removals, mortality.

Our job at the North Central Forest Experiment Station is discovering and creating new knowledge and technology in the field of natural resources and conveying this information to the people who can use it. As a new generation of forests emerges in our region, managers are confronted with two unique challenges: (1) Dealing with the great diversity in composition, quality, and ownership of the forests, and (2) Reconciling the conflicting demands of the people who use them. Helping the forest manager meet these challenges while protecting the environment is what research at North Central is all about.